

**S&P Dow Jones
Indices**

A Division of **S&P Global**

Markit iBoxx USD Infrastructure Indices Guide

May 2024

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1 Markit iBoxx USD Infrastructure Indices

The Markit iBoxx USD Infrastructure Indices are designed to reflect the performance of USD denominated investment grade corporate and sub-sovereign infrastructure debt. The index rules aim to offer a broad coverage of the USD investment grade corporate and sub-sovereign infrastructure bond universe. The Markit iBoxx USD Infrastructure Indices are an integral part of the suite of iBoxx indices, which provide the marketplace with accurate and objective indices by which to assess the performance of bond markets and investments. The Markit iBoxx USD Infrastructure Indices cover companies from the Consumer Services, Energy, Financial Services, Health Care, Industrials, Sub-Sovereigns, Real Estate, Technology, Telecommunication, Transportation and Utilities sectors with specific characteristics. The indices are market-value weighted.

The Markit iBoxx USD Infrastructure Indices are rebalanced once a month at the month-end (the “rebalancing date”) and consist of investment grade USD denominated bonds issued by corporate and sub-sovereign issuers rated by at least one of three rating services: Fitch Ratings, Moody’s Investors Service, or S&P Global Ratings.

The bonds in the Markit iBoxx USD Infrastructure Indices must meet all the criteria described below as of the close of business three business days prior to the rebalancing date provided that the relevant bond data can be verified as of such date (“bond selection cut-off date”). The new index composition becomes effective on the first business day of the next month.

All iBoxx indices are priced based on multiple data inputs. The Markit iBoxx USD Infrastructure Indices use multi-source prices as described in the document *iBoxx Pricing Rules* publicly available on <https://www.spglobal.com/spdji/en/indices/products/indices.html>.

This document covers the index rules and calculation methodology.

1.1 Publication of the index

The Markit iBoxx USD Infrastructure Indices are calculated as end-of-day indices and distributed once daily after close of US markets.

Bond and index analytical values are calculated end of day Monday to Friday using that day's closing prices. In addition, bond and index analytical values are calculated using the previous trading day's closing prices on the last calendar day of each month if that day is not a regular trading day as well as on common bank holidays as published in the iBoxx index calculation calendar. This index calculation calendar is available on <https://www.spglobal.com/spdji/en/> under *iBoxx Indices Calendars*. Index data is also available from the main information vendors.

Closing index values and key statistics are published at the end of each calculation day in the *Indices* section on <https://www.spglobal.com/spdji/en/> for registered users.

2 Bond selection rules

The following selection criteria are applied to select the constituents for the Markit iBoxx USD Infrastructure Indices:

- Bond type
- Credit rating
- Time to maturity
- Amount outstanding
- Classification

2.1 Bond type

General inclusion criteria:

- Bonds with known cash flows are eligible for the indices.

In particular, bonds with the following characteristics are included:

- Taxable Municipals
- 144A-version only (i.e. there is no corresponding RegS security)
- Fixed coupon bonds
- Callable bonds and puttable bonds
- Step-ups and event-driven bonds such as rating-driven or registration-driven bonds
- Amortizing bonds and sinking funds with fixed sinking schedules
- Dated and undated hybrid capital, incl. fixed-to-floater hybrid bank/insurance capital bonds
- Secured bonds:
 - > Secured bonds issued by insurance companies
 - > First mortgage bonds/ first priority security interest
 - > Covered bonds
 - > Secured bonds issued by an SPV with known cash-flows

The following instrument bond types are specifically excluded from the indices:

- Floating Rate Notes
- Zero coupon bonds and zero-coupon step-up bonds
- Financial non-hybrid perpetual and fixed to floater bonds
- Fixed-to-floater, non-hybrid bonds from non-financial issuers
- Convertibles
- Inflation- and other index-linked bonds
- Bonds cum or ex-warrant
- Bonds whose complete coupons are paid at maturity, as they are similar to zero-coupon bonds with only one cash flow
- New bonds entering the index that have already been called prior to rebalancing
- Retail bonds
- Private placements
- Extended bonds as defined under section 'Maturity extension' in this document

For retail bonds and private placements, publicly available information is not always conclusive and the classification of a bond as a retail bond or a private placement will be made at S&P DJI's discretion

based on the information available at the time of determination. Any bond classified as retail or private placement is added to the list of excluded private placements and retail bonds. The list is published on <https://www.spglobal.com/spdji/en/indices/products/indices.html> under *Indices News* for future reference and to ensure decision's consistency.

In instances where a new bond type is not specifically excluded or included according to the published index rules, S&P DJI will analyze the features of such securities in line with the principles set out in this guide. S&P DJI may consult specific Index Committees. Any decision as to the eligibility or ineligibility of a new bond type will be published and the index rules will be updated accordingly.

2.2 Credit rating

All bonds in the Markit iBoxx USD Infrastructure Indices must have an iBoxx Rating of investment grade. Ratings from the following three credit rating agencies are considered for the calculation of the iBoxx Rating:

- Fitch Ratings
- Moody's Investor Service
- S&P Global Ratings

Investment grade is defined as BBB- or higher from Fitch Ratings and S&P Global Ratings and Baa3 or higher from Moody's Investor Service. Bonds with an RD/SD rating are excluded from the Markit iBoxx USD Infrastructure Indices.

If a bond is rated by more than one of the above agencies, then the iBoxx rating is the average of the provided ratings. The rating is consolidated to the nearest rating grade. Rating notches are not used. For more information on how the average rating is determined, please refer to the *iBoxx Rating Methodology* document available at <https://www.spglobal.com/spdji/en/> under *Methodology*.

2.3 Time to maturity

All bonds must have a remaining time to maturity of one year at the rebalancing date. Newly issued bonds must meet the minimum initial time to maturity rule. The minimum initial time to maturity as measured from the first settlement date to the maturity date of the bond, must be 18 months or more.

The expected remaining life expressed in years and calculated as follows:

- For plain vanilla bonds, the expected remaining life of the bond is its time to maturity, calculated as the number of days between the last calendar day of the current month and its maturity.
- For dated and undated callable financial hybrid capital bonds, the workout date is assumed to be the first call date.
- For non-financial hybrid capital bonds with an interest rate reset, the workout date is assumed to be the first reset date.
- For soft bullets, the expected remaining life of the bond is its time to the expected maturity and not to its final maturity date.
- For sinking funds and amortizing bonds, the average life is used instead of the final maturity to calculate the remaining time to maturity.

2.4 Amount outstanding and denomination

The outstanding face value of a bond must be greater than or equal to USD 500 million as of the bond selection cut-off date (“t-3”).

RegS bond tap issue amounts, regardless of fungibility status will be added to existing RegS versions to maintain consistency with the treatment of tap issues as reflected under existing 144A versions.

3 Bond classification

All bonds are classified based on the principal activities of the issuer and the main sources of the cash flows used to pay coupons and redemptions. In addition, a bond's specific collateral type or legal provisions are evaluated. Hence, it is possible that bonds issued from different subsidiaries of the same issuer carry different classifications.

The issuer classification is reviewed regularly based on updated information received by S&P DJI, and status changes are included in the indices at the next rebalancing if necessary.

Where the sector classification of a specific entity is not very clear due to the diversified business of the entity, decision will be made at S&P DJI's discretion. S&P DJI will assign the classification according to its evaluation of the business risk presented in the security prospectus and annual reports, if available. S&P DJI will also compare the classification to peers in the potential sectors. Membership lists including classification are published on the FTP server and in the *Indices* section of the webpage for registered users.

3.1 Infrastructure sector classification

Infrastructure businesses offer essential services, are hard-asset backed, and generally have steady, predictable, low-volatility cash flows. They generally operate in regulated, monopolistic or near-monopolistic markets, or have long-term concessions/contractual agreements.

Each bond in the Markit iBoxx USD Infrastructure Indices is categorized as *Infrastructure* based on its current iBoxx Sector Level 8 classification. Any bond with an iBoxx Sector Level 8 classification equal to *Alternative Electricity, Conventional Electricity, Gas Distribution, Health Care Facilities, Pipelines & Terminals, or Water* is always categorized as *Infrastructure*. Any bond assigned any of the other iBoxx Sector Level 8 classifications listed below is reviewed for material infrastructure exposure and may be categorized as *Infrastructure* if it qualifies for index membership according to the infrastructure sector definitions.

Debt from non-publicly listed companies is eligible if their non-infrastructure activities make up only an insignificant part of the business.

Table 1: Overview of Markit iBoxx Infrastructure Sectors

iBoxx Sector Level 5	iBoxx Sector Level 8	Infrastructure Sector Definition
Consumer Services	Other Educational Services	Educational service providers who own and/or operate educational assets, including owners/operators of correction facilities.
	Specialized Consumer Services	Companies providing consumer services for the improvement of society, other than those falling under the main categories like healthcare, education, or correction facilities.
	Travel & Tourism	Companies providing passenger rail transportation which own the network and rail tracks.
	Universities / Institutes & Colleges	Educational institutions or educational service providers who own and/or operate educational assets including higher, secondary, research or further- level

iBoxx Sector Level 5	iBoxx Sector Level 8	Infrastructure Sector Definition
		educational institutions which award degrees in academic disciplines.
Energy	Pipelines	Companies engaged in midstream transportation and storage; operators of pipelines carrying oil, gas, or other forms of fuel. Excludes pipeline operators that derive most of their revenues from direct sales to end users, which are classified under Gas Distribution.
	Refining & Marketing	Companies engaged in the distribution business within the downstream vertical, refining and marketing of oil, gas and/or refined products. Excludes companies distributing oil, gas and/or refined products through retail networks. Significant refining activity as compared to distribution activity, would disqualify the firm from infrastructure consideration.
Financial Services	Local Government Financing Vehicles	Companies established with the primary purpose of financing local infrastructure, like transportation and utilities. Such companies are directly or indirectly 100% local-government owned and established as a financing platform for regional development purposes.
Health Care	Health Care Facilities	Owners and operators of primary healthcare property such as community hospitals, retirement homes, nursing homes, clinics, and other related medical businesses. Vet hospitals are not included.
Industrials	Railroads	Railroad companies that own the land or rights of way, rail tracks and terminals over which they operate, as well as motive power and most rolling stock.
	Transportation Services	Companies that own or operate airports, public or private highways and toll roads, tunnels, bridges and/or ports.
	Waste & Disposal Services	Providers of pollution control and environmental services for the management, recovery, and disposal of solid and hazardous waste materials, such as landfills and recycling centers that have long-term contracts in place or natural monopolies. Excludes companies that are purely focused on the waste management service, which typically would have non hard backed facility, landfill, waste to energy plant, recycling plant or have no underlying power purchase agreement (PPA)/long-term contract.
Sub-Sovereigns > Other Sub-Sovereigns > Non-Financials	*	An issuer from a non-financial sector involved in transportation and basic utilities & energy infrastructure, with explicit or strong implicit debt guarantee from the state. The issuer's credit rating is closely correlated to the sovereign rating and

iBoxx Sector Level 5	iBoxx Sector Level 8	Infrastructure Sector Definition
		expresses a strong credit uplift based on a high level of government support.
Real Estate	Specialty REITs	Specialty REITs which invest in core infrastructure assets and communication assets. Traditional infrastructure assets are ports, airports, roads, bridges, tunnels, electric power generation, energy (fuels, pipelines), water and waste management. Communication assets are fiber optics and telecommunication towers. Social infrastructure assets main categories are educational assets, healthcare, and correction facilities. Digital infrastructure captures the fixed assets related to the movement or provision of data and information.
Technology	Internet Infrastructure Services	Companies providing services and infrastructure for the internet industry including cloud networking, data centers and storage infrastructure. Excludes companies providing web hosting services.
Telecommunications	Cable & Satellite	Owners and operators of telecommunications infrastructure including communications networks and satellites. Companies who rent or lease their networks to third parties as a service as wholesalers are considered infrastructure. Excludes companies who primarily generate revenue from subscription-based services as a retailer, or who rent commercial satellites to provide communication services.
	Wireless Telecommunications	Wireless tower companies that own, operate and lease mobile site towers to multiple wireless service providers.
Utilities	Alternative Electricity	Companies generating and distributing electricity from a renewable source. Includes companies that produce solar, water, wind, and geothermal electricity.
	Conventional Electricity	Companies generating and distributing electricity through the burning of fossil fuels such as coal, petroleum, and natural gas, and through nuclear energy.
	Gas Distribution	Distributors of gas to end users. Excludes providers of natural gas as a commodity, which are classified under the Oil & Gas industry.
	Multiutilities	Utility companies with diversified activities in natural gas, water and/or electricity distribution and transmission.
	Water	Companies collecting, treating, and distributing water. Companies collecting, treating, and disposing of sewerage.

For further details around the *iBoxx Infrastructure Classification Methodology* please refer to the methodology document published on the webpage at <https://www.spglobal.com/spdji/en/>.

3.2 Additional classification

Corporate Financial debt is further classified into senior and subordinated debt.

4 Index calculation

4.1 Static data

Information used in the index calculation is sourced from offering circulars and checked against standard data providers.

4.2 Bond prices

For more details, please refer to the *iBoxx Pricing Methodology* document, available in the *Methodology* section of the webpage at <https://www.spglobal.com/spdji/en/>.

4.3 Rebalancing process

The index is rebalanced monthly on the last business day of the month. Any inclusion after the index cut-off day (t-3) will not be considered in the rebalancing process but will become effective at the end of the following month. New bonds issued are considered if they are publicly known to settle until the last calendar day of the month, inclusive, and if their rating and amount outstanding has become known at least three trading days before the end of the month.

Preview lists of eligible bonds are published on a weekly basis starting on the first Friday that is three business days after the previous month-end rebalance, as well as on the 6th calendar day of the month (or next index publication day if the 6th calendar day falls on a non-business day). Preview lists of eligible bonds are additionally published on T-4, T-3 trading days before the end of the month. Final components are published two business days before the end of the month (T-2).

Two business days before the end of each month, the rating and amount information for the constituents is updated and the list is adjusted for all rating and amount changes which are known to have taken place three business days before the end of the month which could also result in exclusion of the bond. However, if bonds which are part of broader US Dollar indices become eligible into the Index two business days prior to rebalancing because of rating and/or amount changes, will be included in the index.

4.4 Index data

The calculation of the indices is based on bid prices. New securities are included in the indices at their respective ask prices when they enter the index family. If no price can be established for a particular security, the index continues to be calculated based on the last available price. This might be the case in periods of market stress, or disruption as well as in illiquid or fragmented markets. If the required inputs become impossible to obtain, S&P DJI may consult market participants prior to the next rebalancing date. Decisions are made publicly available on a timely basis and S&P DJI may refer back to previous cases.

The rebalancing takes place after close of market on the last trading day of a rebalancing month.

4.5 Index calculus

The components of the total return are price changes, accrued interest, coupon payments, and reinvestment income on cash flows received during the composition month.

$$TR_t = TR_{t-s} \frac{\sum_{i=1}^n (P_{i,t} + A_{i,t} + XD_{i,t-s} \cdot (CP_{i,t} + G_{i,t})) \cdot N_{i,t-s} + CASH_{t-1} \cdot (1 + SOFR_{t-2USBD} \cdot days_{ACT/360}(t-1, t))}{\sum_{i=1}^n (P_{i,t-s} + A_{i,t-s} + XD_{i,t-s} \cdot CP_{i,t-s}) \cdot N_{i,t-s}}$$

where,

$A_{i,t}$	is the accrued interest of bond i on calculation day t
$A_{i,t-s}$	is the accrued interest of bond i on rebalancing day t-s
$CASH_{t-1}$	is the cash on the previous business day
$CP_{i,t}$	is the value of the next coupon payment of bond i during an ex-dividend period. Outside the ex-dividend period, this value is 0
$G_{i,t}$	is the value of any coupon payment received from bond i at time t. If there is no payment the value is 0
$N_{i,t-s}$	is the amount outstanding of bond i on the previous rebalancing day t-s
$days_{ACT/360}(t-1, t)$	is the number of days between the previous calculation date (t-1) and the current calculation date t
$P_{i,t}$	is the closing price of bond i on the last business day on or before the previous rebalancing day
$P_{i,t-s}$	is the closing price of bond i on the last business day on or before the previous rebalancing day
$SOFR_{t-2USBD}$	is the SOFR rate falling two U.S. Government Securities Business Days prior to the calculation day i
TR_t	is the total return index level on day t
TR_{t-s}	is the closing total return index level on the previous rebalancing day
$XD_{i,t-s}$	is ex dividend indicator flag. The value is 0, if the bond enters the index at the ex-dividend period. The value is 1, if (a) coupon payments are not ex-dividend, (b) has not entered the index during an ex-dividend period, or (c) entered the index during a previous ex-dividend period

For specific index formulae please refer to *iBoxx Bond Index Calculus* document available at <https://www.spglobal.com/spdji/en/> under *Methodology*.

4.6 Treatment of the special intra-month events

Data for the application of corporate actions in the indices may not be fully or timely available at all times, e.g. the final call prices for make-whole calls or the actual pay-in-kind percentage for PIK-payment options. In such cases, S&P DJI will estimate the approximate value based on the available data at the time of calculation.

4.6.1 Full redemptions: exercised calls, puts and buybacks

If a bond is fully redeemed intra-month, the bond effectively ceases to exist. In all calculations, the redeemed bond is treated as cash based on the last price, the call price or repurchase price, as

applicable. The redemption factor, redemption and the redemption price are used to treat these events in the index and analytics calculation. In addition, the clean price of the bond is set to the redemption price, and the interest accrued until the redemption date is treated as an irregular coupon payment.

4.6.2 Bonds trading flat of accrued

If a bond is identified as trading flat of accrued, the accrued interest of the bond is set to 0 in the total return index calculation and is excluded from the calculation of all bond and index analytical values.

Bonds will be considered trading flat of accrued in any of the following situations:

- a bond has been assigned a default rating and/or
- issuer has announced a failure to pay a coupon and/or
- issuer has announced an intention not to make a payment on an upcoming coupon (grace period).

4.6.3 Multi-coupon bonds

Some bonds have pre-defined coupon changes that lead to a change in the annual coupon over the life of the bond. In all instances, the coupon change must be a fixed amount on top of a fixed coupon, i.e. floating coupon bonds are not eligible for the indices. The two main categories of bonds are step-up bonds and event-driven bonds.

- **Step-up bonds:** These are bonds with a pre-defined coupon schedule that cannot change during the life of the bond. The coupon schedule is used in all bond calculations.
- **Event-driven bonds:** These are bonds whose coupon may change upon occurrence (or non-occurrence) of pre-specified events, such as rating changes, e.g. rating-driven bonds, failure to register (register-driven bonds), or failure to complete a merger (merger-driven bonds). In the calculation of the indices and the analytics, the coupon schedule as of the calculation date is used. That is to say, any events occurring after the calculation date are ignored in the determination of the applicable coupon schedule. *Example of an event-driven bond:* A bond's rating changes on 31 December 2003 from A- to BBB+ and the coupon steps up from 6% to 6.25% from 1 March 2004 onward. The coupon dates are 1 October and 1 April each year. The correct coupon schedule for the bond and index calculations is date dependent. The index calculation on 20 December 2003 uses the 6% coupon for the whole life of the bond, while the calculation on 31 January 2004 uses a 6% coupon for the current coupon period to 29 February 2004, and a 6.25% coupon for all later interest payments. The index calculation on 20 March uses a 6% coupon until 29 February, a 6.25% coupon for the remainder of the current coupon period and a 6.25% coupon for all future coupon payments. The index calculation after 1 April uses a 6.25% coupon.

4.6.4 Maturity extension

4.6.4.1 Maturity extension for perpetuals & dated fixed-to-fixed bonds with a reset date

Maturity	Coupon/Call structure	Workout Date at issuance	Updated Workout date if not called
Perpetual	Reset*/Callable	Assume first call date as workout date	Extend workout date until the end of the next reset date*
Dated	Reset/Callable	Assume reset date as workout date	Extend workout date until the end of the next reset date or final maturity date*

*Assumes the bond terms allow for a redemption at the new assumed maturity date

4.6.4.2 Maturity extension for perpetual bonds without a reset date

Maturity	Coupon/call structure	Workout date at issuance	Updated Workout date if not called
Perpetual	Fixed/ Callable	Assume first call date as workout date	Extend workout date until the assumed next call date - 5 years from first call date*.

*Assumes the terms allow for a redemption at the new assumed maturity date.

4.7 Index history

The Index history starts on 31 December 2005. The indices have a base value of 100 on that date.

4.8 Settlement conventions

All iBoxx indices are calculated using the assumption of T+0 settlement days.

4.9 Calendar

S&P DJI publishes an index calculation calendar available on <https://www.spglobal.com/spdji/en/> under *iBoxx Indices Calendars*. This calendar provides an overview of the index calculation holidays of the iBoxx bond index families each year.

4.10 Data publication and access

The table below summarizes the publication of Markit iBoxx USD Infrastructure Indices in the *Indices* section of the website for registered users and on the FTP server.

Table 2: Data publication frequency, file types and access

Frequency	File Type	Access
Daily	Underlying file – Bond level	FTP Server
	Indices files – Index level	FTP Server / website / Bloomberg (index levels only)
6th calendar day of the month (moved to next business day in case of weekends)	Preview components	FTP Server / website
Weekly (On Friday)**	Preview components	FTP Server / website
T - 4	Preview components	FTP Server / website
T - 3	Preview components	FTP Server / website
Monthly	End of month components	FTP Server / website
	XREF files	FTP Server

**Previews will be published on the first Friday that is three business days after the previous month-end rebalance.

Table 3: Index identifiers

Name	Markit iBoxx USD Infrastructure		iBoxx USD Investment Grade Sub-Sovereigns Infrastructure	
	TRI	CPI	TRI	CPI
Version	GB00BYT24F73	GB00BYT24G80	GB00BQNBSJ60	GB00BQNBSH47
ISIN	GB00BYT24F73	GB00BYT24G80	GB00BQNBSJ60	GB00BQNBSH47
Ticker	IBXXINFR	IBXXINFP	--	--
RIC	.IBXXINFR	.IBXXINFP	--	--

4.11 Index review

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.

5 Governance and regulatory compliance

IHS Markit Benchmark Administration Limited (IMBA UK) is the Index Administrator of iBoxx indices. Information on IMBA UK's governance and compliance approach can be found [here](#). This document covers:

- Governance arrangements
- Input data integrity
- Conflicts of interest management
- Market disruption and Force Majeure
- Methodology changes and cessations
- Complaints
- Errors and restatements
- Reporting of infringements and misconduct
- Methodology reviews
- Business continuity

More details about IMBA UK can be found on the [Administrator's website](#).

6 Changes to the Markit iBoxx USD Infrastructure Indices

Aug. 31, 2023	Annual Index Review 2022 <ul style="list-style-type: none"> • Treatment of distressed debt exchanges • Introduction of new economic sector classification "Energy" with new market sector classification "Renewable Energy" • Updated infrastructure sector classification methodology • Creation of iBoxx Sub-sovereign Infrastructure Indices • Maturity extension section added
Jul. 31, 2022	<ul style="list-style-type: none"> • Monthly forward start date updated from 10th calendar day to 6th calendar day
Sep. 01, 2021	<ul style="list-style-type: none"> • Monthly forward start date updated from 12th calendar day to 10th calendar day
Feb. 28, 2021	Implementation of Annual Index Review 2020 <ul style="list-style-type: none"> • RegS and 144A tap issuance update
Jan. 31, 2021	Governance and Regulatory Compliance section added
Jul. 31, 2020	<ul style="list-style-type: none"> • Updated Rebalancing process • Updated classification • Updated Time to maturity definition
Jul. 26, 2016	Launch of Markit iBoxx USD Infrastructure Index

7 Further information

Client support

For client support please contact index_services@spglobal.com.

Formal complaints

Formal complaints should be emailed to spdji_compliance@spglobal.com.

Please note: spdji_compliance@spglobal.com should only be used to log formal complaints.

General index inquiries

For general index inquiries, please contact index_services@spglobal.com.

A ESG Disclosures

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY [1]		
1	Name of the benchmark administrator.	IHS Markit Benchmark Administration Limited (IMBA)
2	Underlying asset class of the ESG benchmark. [2]	N/A
3	Name of the S&P Dow Jones Indices benchmark or family of benchmarks.	iBoxx Benchmark Statement
4	Do any of the indices maintained by this methodology take into account ESG factors?	No
Appendix latest update:		May 2023
Appendix first publication:		May 2023

[1] 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).

[2] 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.

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

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