

Markit iBoxx USD Emerging Markets Sovereigns Index Guide

May 2024

Table of Contents

1) Markit iBoxx USD Emerging Markets Sovereigns Index	4
2) Bond selection rules	5
2.1) Bond type	5
2.2) Issuer type	6
2.3) Issuer domicile	6
2.4) Credit rating	6
2.5) International clearability	7
2.6) Time to maturity	7
2.7) Age	7
2.8) Amount outstanding and denomination	7
2.9) Emerging market definition	7
2.9.1) Issuer domicile definition	7
2.9.2) Defaulted countries and sovereign debt rating	7
2.9.3) Additional restriction for countries on financial sanction regimes	8
3) Bond classification	9
3.1) Overall bond classification scheme	9
3.2) Sovereigns	9
4) Index calculation	10
4.1) Static data	10
4.2) Bond prices	10
4.3) Rebalancing process	10
4.3.1) Weekly Preview	10
4.4) Index Data	10
4.5) Index calculus	11
4.6) Treatment of the special intra-month events	11
4.6.1) Index and analytics weights	11
4.6.2) Funged bonds	12
4.6.2.1) Parent and new tranche are both index constituents	12
4.6.2.2) Parent is an index constituent, but the new tranche is not	12
4.6.2.3) Parent is not an index constituent but the new tranche is	12
4.6.3) Full redemptions: exercised calls, puts and buybacks	12
4.6.4) Bonds trading flat of accrued	12

4.6.5) Multi-coupon bonds	12
4.6.6) Ex-dividend conventions	13
4.6.7) Maturity extension	13
4.6.7.1) Maturity extension for perpetual bonds without a reset date	13
4.6.7.2) Maturity extension for perpetuals & dated fixed-to-fixed bonds with a reset date	14
4.7) Index history	14
4.8) Settlement conventions	14
4.9) Calendar	14
4.10) Publication of the Markit iBoxx USD Emerging Markets Sovereigns Index	14
4.11) Data publication and access	14
4.12) Index review	15
5) Governance and regulatory compliance	16
6) Changes to the iBoxx USD Emerging Markets Sovereigns Index	17
7) Further information	18
A) ESG Disclosures	19
Disclaimer	20

1) Markit iBoxx USD Emerging Markets Sovereigns Index

The Markit iBoxx USD Emerging Markets Sovereigns Index is designed to reflect the performance of USD denominated sovereign bonds issued by entities domiciled in the emerging markets. The index rules aim to offer a broad coverage of the emerging market sovereign bond universe, whilst upholding minimum standards of investability and liquidity. The indices are an integral part of the global Markit iBoxx index families, which provide the marketplace with accurate and objective indices by which to assess the performance of bond markets and investments.

All iBoxx indices are priced based on multiple data inputs. The Markit iBoxx USD Emerging Markets Sovereigns Index uses multi-source prices as described in the document “Markit iBoxx Pricing Rules” publicly available on <https://www.spglobal.com/spdji/en/>.

This document covers the index rules and calculation methodology.

2) Bond selection rules

The eligible universe is derived from emerging market central government debt denominated in US dollars.

The following selection criteria are used to determine the index constituents:

- Bond type
- Issuer type
- Issuer domicile
- Amount outstanding and Denomination
- Time to maturity
- Age
- Credit rating
- International clearability

2.1) Bond type

In general, bonds with known cash flows are eligible, extending to the following bond types:

- Fixed and zero coupon bonds
- Callable and puttable bonds
- Step-ups and event-driven bonds
- Amortizing bonds and sinking funds with fixed sinking schedules
- Covered bonds
- Perpetuals and fixed-to-float bonds with a reset date at or after the first call date
- Contingent convertible and other Basel III compliant A/RT1 and T2 capital with mandatory conversion/write-down with pre-specified objective triggers
- Financial subordinated debt with a contingent conversion feature at the point of non-viability, in line with the capital adequacy requirements of Basel III
- Preference share style AT1s
- Payment-in-kind (PIKs)
- Extended bonds as defined in the *Maturity Extension* section of this document
- RegS securities

Specifically exclude the following bond types:

- Floating-rate notes
- Inflation-linked and other index-linked bonds
- Structured notes
- Catastrophe bonds
- Other collateralized bonds
- Other optional or mandatory convertible bonds
- 144As
- Perpetuals and fixed-to-float bonds with a reset date prior to the first call date

- Subordinated bank or insurance debt with non-regulatory conversion options before the first call date
- Bonds cum- or ex-warrant
- New bonds entering the index that have already been called prior to the rebalancing
- Retail bonds
- Private placements

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/> 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 analyse the features of such securities in line with the principles set out in this guide. S&P DJI may consult the 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.

The inclusion rules are reviewed regularly (once a year) and may be changed to capture new market trends if previously excluded bond types start to account for a significant share of a country's or region's bond issuance.

2.2) Issuer type

Only sovereign debt issued by the central government or the central bank is eligible for the indices. Restructured debt is eligible for the indices, but Brady bonds are not.

2.3) Issuer domicile

Only debt from the emerging markets as defined later in the document is considered.

2.4) Credit rating

Bond or issuer must be rated by one or more of the following three credit rating agencies:

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

If more than one of the above agencies rates a bond, then the iBoxx rating is the average of the provided ratings. The index consolidates ratings to the nearest rating grade and does not use rating notches.

For subordinated debt to be eligible, any of the three credit rating agencies must rate a bond.

For more information on how the average rating is determined, please see the *iBoxx Rating Methodology* available on <https://www.spglobal.com/spdji/en/> under *Methodology*.

2.5) International clearability

Bonds need to be clearable via one of the following three clearing houses:

- Clearstream
- Euroclear
- Hong Kong CMU

2.6) Time to maturity

There is no minimum remaining time to maturity rule. 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 bond maturity date must be 18 months or more.

2.7) Age

There is no age restriction.

2.8) Amount outstanding and denomination

The bonds must be denominated in U.S. dollars and must have a minimum amount outstanding of USD 250 million.

In the case of 144A/RegS securities that are registered as global securities, the remaining amount of the 144A/RegS version and the registered version are recombined if the bond is not exchanged in full.

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.

2.9) Emerging market definition

2.9.1) Issuer domicile definition

Only issuers from countries/territories classified as emerging markets are eligible for the indices. The list of emerging markets is established according to Markit Global Economic Development Classification Methodology and is used to determine the eligibility of the issuer. The classification methodology as well as the up-to-date classifications are published in the indices section on <https://www.spglobal.com/spdji/en/> under Markit Bond Indices / Markit iBoxx / Markit iBoxx Rules. The classifications are updated annually and implemented on 30 November each year.

2.9.2) Defaulted countries and sovereign debt rating

Countries that are in default on their external debt or that do not have a long term foreign debt rating from at least Fitch, Moody's Investor Service or S&P Global Ratings are excluded from the indices. Countries with ratings of D or RD from Fitch, C or Ca from Moody's Investor Service and D or SD from S&P Global Ratings are not eligible. A default is determined based on information from the rating agencies.

In addition, a country is considered to be in default if one of the 6 credit events as defined by ISDA occurs:

- Bankruptcy
- Obligation Acceleration
- Obligation Default
- Failure to Pay
- Repudiation/Moratorium
- Restructuring

2.9.3) Additional restriction for countries on financial sanction regimes

Countries included on the financial sanctions' lists of the European Union or the US are excluded from the indices unless:

- Sanctions are applied to specific individuals only, or
- Funds, funding and financial transactions of the government and government-related entities are unaffected by the sanctions.

The information about the sanctions regime is compiled:

- For the European Union from the Common Foreign & Security Policy from http://ec.europa.eu/external_relations/cfsp/sanctions/measures.htm
- For the US from the Office of Asset Control (OFAC) from <http://www.treas.gov/offices/enforcement/ofac/>

A country is placed on the sanction list if relevant sanctions apply for either the European Union or the US. The decision about adding/removing countries is taken in consultation with the index Committee. Any decision to change the list of countries on the sanction list is immediately published on the web.

A country emerging from default is re-included in the index at the next index rebalancing after its rating has been reinstated. If financial sanctions are instated for a particular country, this country is removed from the index at the next month-end. If financial sanctions are lifted, the country is included in the index at the next index re-balancing after all relevant sanctions have been lifted.

Based on current information, the following countries are excluded from the indices because of applicable sanctions:

- Cuba
- Iran
- Myanmar
- North Korea
- Russia
- Sudan
- Syria
- Venezuela

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 index 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) Overall bond classification scheme

The following classification scheme is used for the bonds:

- Level 0 Index family, i.e. USD
- Level 1 Country of risk
- Level 2 External Debt
- Level 3 Sovereigns
- Level 4 Region (Asia, EEMEA, Latin America)

3.2) Sovereigns

Bonds issued by a central government and denominated in USD.

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 re-balancing process, but will become effective at the end of the following month. New bonds issued are taken into account 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.

A preliminary membership list is published on 10th calendar day of the month (or the next business day in case of holiday/weekend).

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 USD 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.

Two business days before the end of the month the final index membership list for the following month is published at the close of business.

4.3.1) Weekly Preview

In addition to the regular monthly rebalancing, a preview list (including sector classification for new bonds) is published each Friday with predicted changes to the index constituents at the next rebalancing. The preview list includes the next month's index constituents and shows bonds joining or leaving the indices at the next re-balancing, based on information available on such Fridays.

First weekly preview will be published on the Friday that is three business days after the previous month-end rebalance.

4.4) Index Data

A sub-index is calculated if at least one bond matches all inclusion criteria. If no more bonds qualify for an index, then its level remains constant. If at least one bond becomes available again, the index calculation resumes and is chained to the last calculated level.

All bonds are assigned to sub-indices according to their classification. The assignment of a bond to a certain maturity bucket is based on its expected remaining life. All bonds remain in their maturity bucket for the entire month.

The calculation of the indices is based on bid prices. New bonds are included in the indices at their respective ask prices when they enter the index family. In the event that no price can be established for a particular bond, 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 the specific Index Committees at the following rebalancing date. To ensure consistency, decisions taken are made publicly available on a timely basis and S&P DJI has the ability to refer back to previous cases.

On the last trading day of a month, the rebalancing takes place after the daily index calculation for the current month's list, including the calculation of the last calendar day's indices, has been performed.

4.5) Index calculus

For specific index formulas please refer to the *iBoxx Bond Index Calculus* document available on <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 index 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) Index and analytics weights

The Markit iBoxx USD Emerging Markets Sovereigns Index is market-value-weighted, with the bond's amount outstanding as the weighting factor. The amount outstanding of a bond is only adjusted at the monthly rebalancing process at the end of each month. However, scheduled redemption payments for amortizing bonds and sinking funds are taken into account from the date they occur, as they have a significant influence on index return and analytical values. In addition, bonds that are fully redeemed intra-month are also taken into account immediately. Therefore, the indices are based on adjusted amount outstanding, derived from the amount issued and closely related to the amount outstanding of a bond. The concept is summarized below.

Definitions:

- *Amortizing bonds*: Bonds whose face value is redeemed according to a schedule at more than one redemption date. Interest payments are made on the basis of the remaining value of the bond.
- *Sinking funds*: Bonds, for which money is applied periodically to redeem part of the outstanding before maturity. At the redemption dates the appropriate amount of bonds may either be retired randomly from the outstanding bonds, or purchased on the open market and thus retired. Interest payments are made on the remaining outstanding bonds.
- *Fully redeemed bonds*: Bonds that are fully called or completely repurchased prior to or at the calculation date.

The amount issued of a bond does not change when coupons are paid and bonds are redeemed. However, additional tranches and unscheduled repurchases have to be taken into account to arrive at a suitable basis for index and analytics calculations. Therefore the adjusted amount outstanding is the common basis on which all calculations are based.

In addition, incoming bond prices are linked to the amount outstanding, rather than to the amount issued. This ensures a common basis (to the nominal value of 100), on which all bonds are priced and the indices are calculated.

4.6.2) Funged bonds

Bonds may be issued in several tranches. The different tranches are initially legally separate and therefore trade independently for a certain period. On and after the funged date, the tranches will be combined into one bond, i.e. the parent tranche will contain the original security, as well as the additional notional(s) from the new tranche(s). After the funged date, the prices for both the securities are the same, because they constitute one uniform bond. This is reflected in the indices as follows:

4.6.2.1) Parent and new tranche are both index constituents

- After the funged date, the price from the parent tranche is used for the funged tranche; no price for the funged bond
- Funged tranche leaves the index at the next rebalancing and parent amount outstanding increases accordingly

4.6.2.2) Parent is an index constituent, but the new tranche is not

- No special intra-month treatment necessary
- Parent amount outstanding increases at the next rebalancing

4.6.2.3) Parent is not an index constituent but the new tranche is

- No special intra-month treatment necessary
- Funged tranche leaves the index; parent tranche enters the index at the next rebalancing

4.6.3) 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.

4.6.4) 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).

4.6.5) 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.

4.6.6) Ex-dividend conventions

Some markets have ex-dividend conventions. Ex-dividend means that the next coupon is detached from the bond several days in advance of the coupon payment date. The date on which the next coupon is detached is the ex-dividend date and the period between the ex-dividend date and the coupon payment date is the ex-dividend period. If a bond is in the ex-dividend period, the next coupon payment will not be paid to a buyer of this bond, but will be paid to the original bond holder.

The indices and analytics calculations take ex-dividend conventions into account. During the ex-dividend period, the accrued interest of the bond is negative, while the next coupon payment is held separate in the variable coupon adjustment. If the bond enters the index during the ex-dividend period, then the next coupon payment and the coupon adjustment will not accrue to the index. However, if the bond was already in the index, the next coupon payment needs to be included in the total return calculations. This is controlled via the ex-dividend indicator which is 0 if the bond enters the index during the current ex-dividend period and 1 if not. The same treatment is also applied to all analytics calculation, i.e. the first cash flow is excluded from the calculations if the bond enters during the current ex-dividend period.

4.6.7) Maturity extension

4.6.7.1) 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.

4.6.7.2) 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

4.7) Index history

The Index history starts on 31 October 2010. The index has 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) Publication of the Markit iBoxx USD Emerging Markets Sovereigns Index

The index is calculated at the end of each business day and re-balanced at the end of each month. The indices are calculated on the basis of end-of-day iBoxx prices on each trading day defined in the iBoxx USD Index calculation calendar. The index calculation calendar is available in the indices section on <https://www.spglobal.com/spdji/en/> under *Calendar* for data subscribers. Index data and bond price information is also available from the main information vendors.

Bond and index analytical values are calculated each trading day using the daily closing prices. Closing index values and key statistics are published at the end of each business day in the indices section on <https://www.spglobal.com/spdji/en/> for registered users. In addition, midday fixing levels for bond prices and indices are also published.

4.11) Data publication and access

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

Table 1: 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 2: Below are the access codes for the different vendors and IDs of the Index:

Name	Version	ISIN	Bloomberg Code	RIC
Markit iBoxx USD Emerging Markets Sovereigns	Total Return Index	GB00B9C37640	IBOXUSEM	.IBXXUSEM
Markit iBoxx USD Emerging Markets Sovereigns	Clean Price Index	GB00B997G066	IBOXUSET	.IBXXUSET

4.12) 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 iBoxx USD Emerging Markets Sovereigns Index

01 May 2024	Annual Index Review 2023 <ul style="list-style-type: none"> Standardization of Index Rules <ul style="list-style-type: none"> > Time to maturity > Amount outstanding and denomination > International clearability > Bond Type > Maturity extension > Credit rating
30 June 2023	Annual Index Review 2022 <ul style="list-style-type: none"> Introduction of 'Maturity extension' section
31 July 2022	Monthly forward start date updated from 10th calendar day to 6th calendar day
01 Sep 2021	Monthly forward start date updated from 12th calendar day to 10th calendar day
28 Feb 2021	Annual Index Review 2020 <ul style="list-style-type: none"> Inclusion of Callable bonds RegS and 144A tap issuance update
31 Jan 2021	Governance and Regulatory Compliance section added
31 July 2020	Preview and forward schedule updates
21 Sep 2016	Clarification on Amount Outstanding of the exchanged bonds
10 Mar 2016	Rebalancing Process
01 May 2015	Update of index identifiers
01 Oct 2014	Index restatement, complaints sections added, Additional clarifications on bond eligibility, classification and corporate actions
31 Mar 2013	Markit iBoxx USD Emerging Markets Sovereigns Index will be based on additional prices sources as described in the document 'Markit iBoxx Pricing Rules'
30 Nov 2012	Change of emerging markets definition to Markit Global Economic Development Classification Methodology
31 Oct 2010	Launch of iBoxx USD Emerging Markets Sovereigns 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

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 (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.