

**S&P Dow Jones  
Indices**

A Division of **S&P Global**

# **iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index Guide**

***June 2023***

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# 1) iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index

The iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index is designed to reflect the performance of USD denominated investment grade sub-sovereigns infrastructure debt. The index rules aim to offer a broad coverage of the investment grade sub-sovereigns infrastructure bond universe and consists of a subset of the bonds from the iBoxx USD Overall index. The infrastructure index is 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 infrastructure index covers companies from the Energy, Telecommunication, Transportation and Utilities sector with specific characteristics. The index is market-value weighted.

The iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index is rebalanced once a month at the month-end (the “rebalancing date”) and consists of investment grade USD denominated bonds issued by sub-sovereigns issuers rated by at least one of three rating services: Fitch Ratings, Moody’s Investors Service, or Standard & Poor’s Rating Services.

The bonds in the iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index 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, at IHS Markit’s sole discretion, 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 iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index uses multi-source prices as described in the document “Markit iBoxx Pricing Rules” publicly available on [www.ihsmarkit.com](http://www.ihsmarkit.com).

This document covers the index rules and calculation methodology.

## **1.1) Publication of the iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index**

The index is calculated at the end of each business day and re-balanced at the end of each month. The index is 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 [www.ihsmarkit.com/indices](http://www.ihsmarkit.com/indices) under Calendar for data subscribers. Index data and bond price information is also available from the main information vendors.

## 2) Bond Selection Rules

The following selection criteria are applied to select the constituents for the iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index:

- Bond type
- Credit Rating
- Time to Maturity
- Amount Outstanding
- Sub-sovereigns

### 2.1) Bond Type

General inclusion criteria:

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

In particular, bonds with the following characteristics are included:

- 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 index:

- Sinking funds and amortizing bonds with fixed sinking schedules
- 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

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 IHS Markit's discretion based on the information available at the time of determination. IHS Markit may consult with the specific Index Advisory Committees to review potential retail bonds or private placements. 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 [www.markit.com/indices](http://www.markit.com/indices) 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, IHS Markit will analyse the features of such securities in line with the principles set out in this guide. IHS Markit may consult the specific Index Advisory 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 iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index 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.

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. The methodology can be found on [www.ihsmarkit.com](http://www.ihsmarkit.com) 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 500m 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 IHS Markit, 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 IHS Markit's discretion. IHS Markit will assign the classification according to its evaluation of the business risk presented in the security prospectus and annual reports, if available. IHS Markit will also compare the classification to peers in the potential sectors and may consult with the Index Advisory Committees. Membership lists including classification are published on the FTP server and in the *Indices* section of [products.markit.com](http://products.markit.com) for registered users.

#### 3.1) Sub-sovereigns Infrastructure Sector Classification

Each bond in the iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index is classified as infrastructure based on their current iBoxx Sector Level 4. Bonds with an iBoxx Sector Level 4 equal to sub-sovereigns and bonds which are considered to be infrastructure. Sub-sovereigns bonds issued by entities with explicit or implicit government backing due to legal provision, letters of comfort or the public service nature of their business. The issuer requires a strong central government ownership/relationship if its bonds are not explicitly guaranteed by the central government.

The Table below shows all of the sectors that have infrastructure exposure and therefore may be reflected in the index, within which are definitions for the sectors that require additional review to determine their infrastructure exposure of how infrastructure firms within those sectors are described.

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

Non-publicly listed companies are eligible if the non-infrastructure business makes only an insignificant part of the business.

iBoxx Sector Level5	iBoxx Sector Level8	Infrastructure Definition
Industrials	Railroads	Railroad companies that own the land or rights of way, track and terminals over which they operate, plus motive power and most rolling stock. Also any project bond related to longterm concessions in Light Rail Transit.
	Transportation Services	Firms that own or operate airports, public or private highways and toll roads, 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. These firms typically own waste facilities,

iBoxx Sector Level5	iBoxx Sector Level8	Infrastructure Definition
		such as landfills and recycling centers, and have long-term contracts in place or natural monopolies.
Oil & Gas	Integrated Oil & Gas	Companies that transmit, store, and/or distribute oil and gas. For firms involved with oil & gas, significant E&P activity would disqualify the firm from infrastructure consideration.
	Pipelines	Firms that operate pipelines for the transport of fuel, such as oil and gas.
	Refining & Marketing	Companies engaged in the distribution business within the downstream vertical; refining and marketing of oil, gas and/or refined products. Significant refining activity as compared to distribution activity, would disqualify the firm from infrastructure consideration.
Telecommunications	Wireless Telecommunications	The business owns & operates telecommunications towers (would exclude mobile carrier firms as well as satellite companies) and contracted fiber optic networks. The infrastructure index includes firms where the telecom towers and optic networks would be the main operating business and not companies mainly servicing their own business further down the value chain.
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	Firms that operate distribution of gas to end users.
	Multiutilities	Companies that mainly generate electricity, transmit, or distribute electricity, oil and/or gas. For firms involved with oil & gas, significant E&P activity would disqualify the firm from infrastructure consideration.
	Water	Firms that deliver water to end users or that treat water via water treatment plants.

## 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 *Markit iBoxx Pricing Rules* document, available in the *Methodology* section of the iBoxx Documentation page on [www.ihsmarkit.com](http://www.ihsmarkit.com).

### 4.3) Rebalancing process

The iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index is rebalanced monthly on the last business day of the month after the close of business. Changes to outstanding amounts are only taken into account if they are publicly known three business days before the end of the month. Changes in ratings are only taken into account if they are publicly known two business days before the end of the 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 has become known at least three trading days before the end of the month.

Three business days before the end of each month, a membership list with final amount outstanding for each bond is published.

Two business days before the end of each month, the rating information for the constituents is updated and the list is adjusted for all rating changes which are known to have taken place two trading days before the end of the month.

On the last business day of each month, IHS Markit publishes the final membership with closing prices for the bonds, and various bonds analytics based on the index prices of the bonds.

### 4.4) Index data

The calculation of the index is based on bid prices. New securities are included in the index at their respective ask prices when they enter the index family. In the event that 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, IHS Markit may consult market participants prior to the next rebalancing date. Decisions are made publicly available on a timely basis and IHS Markit 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

For specific index formulas please refer to the *Markit iBoxx Bond Index Calculus* document, available in the *Methodology* section of the iBoxx Documentation page on <https://www.spglobal.com/spdji/en/>.

## 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) 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.

#### 4.7) Index history

The Index history starts on 31 December 2005. 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

IHS Markit publishes an index calculation calendar in the *iBoxx Calendars* section of the iBoxx Documentation page on <https://www.spglobal.com/spdji/en/>. This calendar provides an overview of the index calculation holidays of the iBoxx bond index families in a given year.

#### 4.10) Data publication and access

The table below summarizes the publication of iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index in the *Indices* section of the IHS Markit website [www.ihsmarkit.com](http://www.ihsmarkit.com) 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 / IHS Markit website / Bloomberg (index levels only)
Daily from the 6th calendar day of the month (or the next index publication day if the 6th calendar day falls on a non-business day)	Forwards files	FTP Server / IHS Markit website
Monthly	End of month components	FTP Server / IHS Markit website
	End of month XREF	FTP Server

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

Name	Version	ISIN	SEDOL
iBoxx USD Investment Grade Sub-Sovereigns Infrastructure	Clean Price Index	GB00BQNBSH47	BQNBSH4
iBoxx USD Investment Grade Sub-Sovereigns Infrastructure	Total Return Index	GB00BQNBSJ60	BQNBSJ6

#### **4.11) Index review**

The rules for the Index are reviewed on a periodic basis during the public review and consultation process to ensure that the index provides a balanced representation of the USD denominated debt market. Decisions made following feedback from market participants, the index review and External Advisory Committees (EAC) will be published on [www.ihsmarket.com](http://www.ihsmarket.com) shortly after the EACs have been held. The publication will contain a detailed overview and timelines for implementation of any rules changes.

## 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, including external committees
- 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 Investment Grade Sub-Sovereigns Infrastructure Index

30-April-2023	Launch of iBoxx USD Investment Grade Sub-Sovereigns Infrastructure Index
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## 7) Further information

### Client support

For client support please contact:

<b>E-mail:</b>	<a href="mailto:indices@ihsmarkit.com">indices@ihsmarkit.com</a>		
<b>Phone:</b>	<b>Asia Pacific</b>	Japan: Singapore:	+81 3 6402 0127 +65 6922 4210
	<b>Europe</b>	General: UK:	+800 6275 4800 +44 20 7260 2111
	<b>USA</b>	General:	+1 877 762 7548

### Formal complaints

Formal complaints should be emailed to [spdji\\_compliance@spglobal.com](mailto:spdji_compliance@spglobal.com).

Please note: [spdji\\_compliance@spglobal.com](mailto:spdji_compliance@spglobal.com) should only be used to log formal complaints.

### General index inquiries

For general index inquiries, please contact [indices@ihsmarkit.com](mailto:indices@ihsmarkit.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.	<a href="#">iBoxx Benchmark Statement</a>
4	Do any of the indices maintained by this methodology take into account ESG factors?	No
Appendix latest update:		June 2023
Appendix first publication		June 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 in 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. 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**

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