

Markit iBoxx ADBI Index Guide

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Table of Contents

1 Markit iBoxx ADBI	4
1.1 Index Family Structure	4
1.2 Publication of the Index	5
2 Bond Selection rules	6
2.1 Bond type	6
2.2 International clearability	7
2.3 Issuer type	7
2.4 Issuer domicile	7
2.5 Credit rating	8
2.6 Time to Maturity	8
2.7 Amount Outstanding	9
2.8 Special bond selection rules for iBoxx AHBI	9
2.8.1 Bond type for iBoxx AHBI	9
2.9 US Executive Order 14032 sanctions	9
3 Bond classification	11
3.1 Sovereigns	11
3.2 Sub-sovereigns	11
3.3 Collateralized	12
3.3.1 Covered bonds	12
3.4 Corporates	12
3.5 Additional classification	14
4 Index Calculation	15
4.1 Static data	15
4.2 Bond prices	15
4.3 Rebalancing process	15
4.3.1 Weekly Previews	15
4.4 Index data	15
4.5 Index calculus	16
4.6 Treatment of the special intra-month events	16
4.6.1 Index and analytics weights	16
4.6.2 Funged bonds	17
4.6.2.1 Parent and new tranche are both index constituents	17

4.6.2.2 Parent is an index constituent, but the new tranche is not	17
4.6.2.3 Parent is not an index constituent but the new tranche is	17
4.6.3 Full redemptions: exercised calls, puts and buybacks	17
4.6.4 Bonds trading flat of accrued	17
4.6.5 Multi-coupon bonds	17
4.6.6 Ex-dividend conventions	18
4.6.7 Maturity extension	18
4.6.7.1 Maturity extension for perpetuals & dated fixed-to-fixed bonds with a reset date	18
4.6.7.2 Maturity extension for perpetual bonds without a reset date	19
4.7 Index history	19
4.8 Settlement conventions	19
4.9 Calendar	19
4.10 Data publication and access	19
4.11 Index review	21
5 Governance and regulatory compliance	22
6 Changes to Markit iBoxx ADBI Index	23
7 Further information	25
A ESG Disclosures	26
Disclaimer	27

1 Markit iBoxx ADBI

The Markit iBoxx Asian USD Bond Index family ("iBoxx ADBI") is designed to reflect the performance of USD denominated bonds from Asian based issuers. The index offers a broad coverage of the universe of Asian USD bonds across all ratings and sectors. The iBoxx ADBI contains an overall index as well as sub-indices by country and sector and an index covering the investment grade portion of the Asian USD bond market. The high yield segment of the Asian USD bond universe is covered by the Markit iBoxx Asian USD High Yield Bond Index ("iBoxx AHBI") and includes a sub-index covering the corporate section of the high yield market excluding banks. iBoxx AHBI has slightly different bond inclusion rules reflecting different issuance conventions in the high yield market.

The indices are an integral part of the global Markit iBoxx index families, which provide the marketplace with accurate and objective reference 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 ADBI Index uses multi-source prices as described in the *iBoxx Pricing Methodology* publicly available on <https://www.spglobal.com/spdji/en/> under *Methodology*.

This document covers the index family structure, rules and calculation methodology.

1.1 Index Family Structure

The table below shows the Markit iBoxx Asian USD Bond Index structure:

The Corporates Index is divided into indices for financial and non-financial issues. In addition, sector indices are calculated for financials and non-financials. Industry, super sector and sector indices are also calculated. The financial sector indices, including banks, insurance and financial services are also split into senior and subordinated debt.

Markit iBoxx Asian Dollar bond Index Family		
iBoxx ADBI/iBoxx AHBI	iBoxx ADBI Country Indices	iBoxx ADBI Sector Indices
<ul style="list-style-type: none"> • Markit iBoxx Asian USD Dollar Bond Index • Markit iBoxx ADBI High Grade Index • Markit iBoxx Asian USD High Yield Bond Index • Markit iBoxx AHBI Corporate ex-Banks 	<ul style="list-style-type: none"> • Bangladesh • China • Hong Kong • India • Indonesia • Malaysia • Mongolia • Pakistan • Philippines • Singapore • South Korea • Sri Lanka • Taiwan • Thailand • Vietnam 	<ul style="list-style-type: none"> • Sovereigns • Sub-sovereigns • Covered • Corporates • Financials <ul style="list-style-type: none"> > Banks > Financial Services > Real Estate > Insurance • Financials ex- Real Estate • Non-Financials <ul style="list-style-type: none"> > Basic Materials > Consumer Goods > Consumer Services > Health Care > Industrials > Oil & Gas > Technology > Telecommunications > Utilities
Bonds issued by Macau-based issuers are part of the iBoxx ADBI Hong Kong Index		

1.2 Publication of the Index

All indices are 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 prices on each trading day defined in the iBoxx ADBI Index calculation calendar. The index calculation calendar is available on <https://www.spglobal.com/spdji/en/> under *iBoxx Indices Calendars* for data subscribers. The approximate publication time for the Asian end-of-day is 7 pm HKT/SGT and for the US end-of-day at 6 pm EST. Index data and bond price information is also available from the main information vendors. The Asian end-of-day indices are rebalanced using the Asian end-of-day prices from the last business day of the month and the US end-of-day indices are rebalanced using the corresponding US end-of-day prices.

The index calculation calendar conforms to the recommendations of the Securities Industry and Financial Markets Association (SIFMA):

- Pricing for domestic and global bonds takes place on each SIFMA recommended US trading day
- Pricing for Eurodollar bonds takes place on each SIFMA recommended UK trading day (additional holidays to the US calendar: Easter Monday, May Day, Summer Bank Holiday and Boxing Day)
- The indices are calculated on each SIFMA recommended US trading day and on the last calendar day of each month

2 Bond Selection rules

The Markit iBoxx ADBI Index covers the market of USD bonds from Asia ex-Japan issuers across all sectors and ratings. The bond selection rules between iBoxx ADBI and iBoxx AHBI are slightly different; the rules specific to the iBoxx AHBI are described further in the guide.

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

- Bond type
- International clearability
- Issuer type
- Issuer domicile
- Credit rating
- Time to maturity
- Amount Outstanding

2.1 Bond type

General inclusion criteria:

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

In particular, the following bond types are eligible:

- Fixed coupon bonds
- Callable bonds, who are only callable 1 year or less prior to maturity
- Covered bonds

The following bond types are specifically excluded:

- Other callable and puttable bonds (except make-whole, tax changes calls & poison puts)
- Step coupon bonds
- Certificates of deposit
- Undated bonds
- Floating Rate Notes
- Fixed to floaters bonds
- 144As and private placements
- Municipals
- Retail bonds
- Inflation and other index-linked bonds
- Structured notes
- Other collateralized bonds (excl. covered)
- Brady bonds
- Catastrophe bonds
- Payment-In-Kinds (PIKs)

- Optional and mandatory convertible bonds
- Bonds cum- or ex-warrant
- New bonds entering the index that have already been called prior to rebalancing
- Dual currency bonds: bonds that are denominated in one currency but pay either the coupon or the principal in a different currency
- 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/> 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 2.1 of 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.

2.2 International clearability

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

- Clearstream
- Euroclear
- Hong Kong CMU

2.3 Issuer type

- Sovereigns, Sub-sovereigns, Corporate debt are eligible for the index.
- Covered bonds are also eligible for the indices, but other collateralized bonds such as ABS and MBS are not eligible.
- The bond classification criteria are detailed in further sections in this guide.

2.4 Issuer domicile

Issuers from the following economies are eligible for the index:

- Bangladesh
- China
- Hong Kong SAR and Macau SAR
- India
- Indonesia
- Malaysia
- Mongolia
- Pakistan
- Philippines
- Singapore

- South Korea
- Sri Lanka
- Taiwan
- Thailand
- Vietnam

Issuers from other countries are not eligible for the index.

Issuers are assigned to an economy according to the country of risk principle.

2.5 Credit rating

There is no rating requirement. Unrated bonds are eligible for the index.

Bonds with a rating downgrade to RD/SD will remain eligible until the second rebalancing after the downgrade. If such bonds have not been upgraded by T-3 of the second rebalance following the initial downgrade, they will be removed from the indices. This means RD/SD rated bonds remain eligible in the Markit iBoxx ADBI Index for the first rebalancing after their downgrade to allow for sufficient time to complete a distressed debt exchange or change of terms (assuming they meet all other criteria).

Ratings from the following three credit rating agencies are considered for the calculation of the iBoxx Rating for rated bonds:

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

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 Rules. The methodology can be found at <https://www.spglobal.com/spdji/en/> under *Methodology*.

For senior debt, if a bond is not rated by any of the three credit rating agencies, the bond's issuer rating applies to the bond if available. Long-term foreign currency issuer ratings will be applied to bonds issued by foreign issuers and long-term local currency issuer ratings will be applied to bonds issued by domestic entities.

Unrated bonds are assigned an implied credit quality based on their yield spreads. The implied credit quality will be used to differentiate bonds into investment grade and high yield as well as to individual rating indices. The implied credit quality methodology is available in a separate document at <https://www.spglobal.com/spdji/en/> under *Methodology*.

2.6 Time to Maturity

All bonds must have a remaining time to maturity of one year at any rebalancing date. The time to maturity is calculated from the rebalancing date to the final maturity date of the bond by using the day count convention of the bond.

For sinking funds and bonds with embedded options which are eligible for the iBoxx AHBI indices, the time to maturity is calculated as follows:

- For bonds with embedded options, including hybrid capital, the final maturity date is used to calculate the time to maturity
- For sinking funds, the time to maturity is calculated from the rebalancing date to the average life date

2.7 Amount Outstanding

All the bonds require minimum amount outstanding of USD 250m.

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.

2.8 Special bond selection rules for iBoxx AHBI

The iBoxx AHBI follows the main selection rules for the iBoxx ADBI except the bonds types as mentioned in below section.

2.8.1 Bond type for iBoxx AHBI

In addition to fixed coupon bonds, the following bond types are eligible for iBoxx AHBI"

- Step coupon bonds
- Bonds with embedded call or put options
- Dated hybrid capital including fixed-to-floater bonds
- Undated bonds (perpetuals)
- Sinking fund bonds
- Preference share-style AT1s
- Contingent convertible and other Basel III compliant AT1 and T2 capital with mandatory conversion / write down with pre-specified objective trigger

Bonds with any of the following attributes remain excluded from iBoxx AHBI:

- Floating rate notes and fixed to float bond who turn into a floating rate note before the first call date
- Amortizing bonds
- Certificates of deposit
- Bonds with warrants
- Convertibles
- Index-linked and credit linked notes
- Dual currency bonds: bonds that are denominated in one currency but pay either the coupon or the principal in a different currency
- Retail bonds
- Private placements
- Extended bonds as defined under section 'Maturity extension' in this document

For bonds issued in both 144A and RegS versions, the RegS version is included in the index.

2.9 US Executive Order 14032 sanctions

Bonds from entities newly added to the sanctions list would be excluded from the index. Bonds from entities that are subsequently removed from the sanctions list would become eligible for the index again at the next respective rebalancing insofar as long as the securities meet other index-inclusion criteria.

The timeline for in-/exclusion is as follows:

Sanctions list change	Inclusion	Exclusion
At least 10 business days before month end	Next index rebalancing	At the end of the current month
Within last 10 business days of a month	Next index rebalancing falling after the 1st day of the following month	At the end of the following month

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 Sovereigns

Bonds issued by a central government and denominated in USD.

3.2 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 the issuer's business. The issuer requires a strong central government ownership/relationship if its bonds are not explicitly guaranteed by the central government.

The four main sub-sovereign sectors are:

- **Agencies:** Bonds issued by entities with a major focus on government-sponsored, public, non-competitive services. The issuers are financial in nature and carry out government policies through special development programs, often explicitly government-backed or with a business scope defined by a specific law.
- **Supranationals:** Bonds issued by supranational entities, i.e. entities that are owned by more than one central government (e.g. World Bank, EIB).
- **Local Government:** Bonds issued by local governments (e.g. Province of Manitoba, Canada).
- **Other Sub-Sovereigns:** All remaining bonds considered sub-sovereign, classified into the following three main categories:
 - > **Non-Financials:** Bonds issued by entities from the non-financial sector with an explicit or strong implicit debt guarantee from the state. The issuer's credit rating is closely correlated to the sovereign rating and expresses a strong credit uplift based on a high level of government support. S&P DJI expects the issuer's credit rating to be no worse than on par or two notches below the sovereign rating. A 'strong implicit guarantee' means the issuer is 100% owned by the state or public sector with its debt consolidated into state public debt, or the issuer has preexisting access to government financing or funding derived from tax revenues. State-owned issuers that are profit-

oriented, provide competitive services, and operate under a regulatory framework are considered Corporates.

- > *Guaranteed Financials*: A specific bond issued by a private sector financial institution that is irrevocably guaranteed by a government. Most of these bonds are issued under programs set-up after the 2008 financial crisis.
- > Bonds issued by unguaranteed institutions with an irrevocable and explicit guarantee by a central government that covers amount and timeliness of all interest and principal payments until the maturity of the bond.

3.3 Collateralized

3.3.1 Covered bonds

Bonds which are secured by a general pool of assets in case the issuer becomes insolvent, in particular bonds conforming to the criteria specified in UCITS 22.4 or similar directives, e.g. CAD III. In addition, bonds with a structure affording an equivalent risk and credit profile that are considered by the market as covered bonds are also included in the indices.

3.4 Corporates

Bonds issued by public or private corporations. Bonds secured by a 'floating charge' over some or all assets of the issuer are considered corporate bonds. Corporate bonds are further classified into Financials and Non-Financials bonds and then into their multiple-level economic sectors, according to the issuer's business scope. The category Guaranteed & Wrapped is added under Financials for corporate bonds whose timely coupon and/or principal payments are guaranteed by a non-affiliated insurer or through a letter of credit from a non-affiliated bank. Each bond in the index is assigned to one of the following sectors.

Table 1: Overview of Markit iBoxx Corporates Sectors

	Economic Sector	Market Sector	Market Sub-Sector
Financials	Core Financials	Banks	Banks
		Insurance	Life Insurance
			Nonlife Insurance
	Financial Services	Financial Services	General Financial
			Equity Investment Instruments
			Nonequity Investment Instruments
		Guaranteed & Wrapped	*
	Real Estate	Real Estate	Real Estate Investment & Services
			Real Estate Investment Trusts
Non-Financials	Energy	Oil & Gas	Oil & Gas Producers
			Oil Equipment / Services & Distribution
		Renewable Energy	Renewable Energy
	Basic Materials	Chemicals	Chemicals

	Economic Sector	Market Sector	Market Sub-Sector
		Basic Resources	Industrial Metals
			Mining
			Forestry & Paper
	Industrials	Construction & Materials	Construction & Materials
		Industrial Goods & Services	Aerospace & Defense
			Electronic & Electrical Equipment
			General Industrials
			Industrial Engineering
			Industrial Transportation
			Support Services
	Consumer Goods	Automobiles & Parts	Automobiles & Parts
		Food & Beverage	Beverages
			Food Producers
		Personal & Household Goods	Household Goods
			Personal Goods
			Tobacco
			Leisure Goods
	Health Care	Health Care	Pharmaceuticals & Biotechnology
			Health Care Equipment & Services
	Consumer Services	Retail	Food & Drug Retailers
			General Retailers
		Media	Media
		Travel & Leisure	Travel & Leisure
		Education	Academic & Educational Services
	Telecommunications	Telecommunications	Integrated Telecommunications
			Wireless Telecommunications
	Utilities	Utilities	Electricity
			Gas / Water & Multiutilities
	Technology	Technology	Software & IT Services
			Technology Hardware & Equipment

3.5 Additional classification

Corporate debt is further classified into senior and subordinated debt. Bank senior debt structure additionally differentiates between Bail-in and Preferred bonds. The Bail-in classification captures all senior notes which are subject to write-down or conversion into a subordinated instrument on the occurrence of a resolution event, as well as senior bank debt issued by bank holding companies.

Hybrid capital issued by banking and insurance institutions is further detailed into the respective tiers of subordination.

The market information on the tier of subordination for insurance capital is often less standardized and clear than the equivalent issues by banks. In these cases, the classification is based on the maturity, coupon payment and deferral provisions of the bond from the offering circulars of the bonds. The table below displays the seniority classification of debt issued by both financial and non-financial sectors.

Table 2: Overview of seniority levels

Market Sector	Seniority Level 1	Seniority Level 2	Seniority Level 3
Bank	SEN	Preferred	*
		Bail-in	*
	SUB	T2 (post-Jan '13 issuances)	T2 callable
			T2 non-callable
		T2 (pre-Jan '13 issuances)	LT2 callable
			LT2 non-callable
			UT2
		T1	T1 step
			T1 non-step
Insurance	SEN	*	*
	SUB	T3	*
		T2 dated	T2 dated callable
			T2 dated non-callable
		T2 perpetual	*
		T1	*
Other sectors	SEN	*	*
	SUB	Other	Hybrid**
			Non-hybrid

** Bonds will be required to fulfil the following criteria to be considered hybrids:

- Subordinated
- Deferrable coupons
- First non-call period ≥ 5 years
- Either perpetual or 'long-dated', where 'long-dated' is defined as > 25 years of the time to maturity at issuance

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.

4.3.1 Weekly Previews

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, 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

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. 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.

A sub-index is calculated if at least one bond matches all inclusion criteria. If no 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. All top-level indices are computed and disseminated Monday to Friday (except during common US trading holidays). They are based on US end of day prices. The indices are also calculated on the last calendar day of each month irrespective of holidays and weekends. If the indices are calculated on a day that is a non-business day, then the prices from the previous trading day will be carried forward and the index will be calculated using those prices and the current accrued interest and coupon payment data.

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 *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 ADBI 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 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

4.6.7.2 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 2012. 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 Data publication and access

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

Table 3: 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)
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)	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

Markit iBoxx indices are also published through number information service providers including Bloomberg and Thomson Reuters. Please contact S&P DJI for a list of current service providers that carry the iBoxx ADBI and AHBI Index data. The Bloomberg ticker and Reuters RIC code for the main iBoxx indices are:

		Total Return Index		Price Index	
ISIN	Markit Index Name	BBG Ticker	RIC code	BBG Ticker	RIC Code
GB00BYZW7309	Markit iBoxx Asian USD Dollar Bond Index	IBXXADBI	.IBXXADBI	IBXXADBC	.IBXXADBC
GB00BYQ9B830	Markit iBoxx ADBI High Grade Index	IBXXADDT	.IBXXADDT	IBXXADBE	.IBXXADBE
GB00BYQ9BY93	Markit iBoxx AHBI	IBXXAHBI	.IBXXAHBI	IBXXAHBC	.IBXXAHBC
GB00BF9QGH28	Markit iBoxx Bangladesh	IBXXDBDT	.IBXXDBDT	IBXXDBDP	.IBXXDBDP
GB00BYQ9B947	Markit iBoxx ADBI China	IBXXADCN	.IBXXADCN	IBXXADBG	.IBXXADBG
GB00BYQ9BB66	Markit iBoxx ADBI Hong Kong	IBXXADHK	.IBXXADHK	IBXXADHP	.IBXXADHP
GB00BYQ9BC73	Markit iBoxx ADBI India	IBXXADIN	.IBXXADIN	IBXXADIP	.IBXXADIP
GB00BYQ9BD80	Markit iBoxx ADBI Indonesia	IBXXADID	.IBXXADID	IBXXADIC	.IBXXADIC
GB00BYQ9BF05	Markit iBoxx ADBI Malaysia	IBXXADMY	.IBXXADMY	IBXXADMP	.IBXXADMP
GB00BYQ9BG12	Markit iBoxx ADBI Mongolia	IBXXADMN	.IBXXADMN	IBXXADMC	.IBXXADMC
GB00BF9QGF04	Markit iBoxx Pakistan	IBXXDPKT	.IBXXDPKT	IBXXDPKP	.IBXXDPKP
GB00BYQ9BH29	Markit iBoxx ADBI Philippines	IBXXADPH	.IBXXADPH	IBXXADPP	.IBXXADPP
GB00BYQ9BJ43	Markit iBoxx ADBI Singapore	IBXXADSI	.IBXXADSI	IBXXADSP	.IBXXADSP
GB00BYQ9BL64	Markit iBoxx ADBI South Korea	IBXXADKR	.IBXXADKR	IBXXADKP	.IBXXADKP
GB00BYQ9BK57	Markit iBoxx ADBI Sri Lanka	IBXXADSL	.IBXXADSL	IBXXADSC	.IBXXADSC
GB00BYQ9BM71	Markit iBoxx ADBI Taiwan	IBXXADTW	.IBXXADTW	IBXXADTP	.IBXXADTP
GB00BYQ9BN88	Markit iBoxx ADBI Thailand	IBXXADTH	.IBXXADTH	IBXXADTC	.IBXXADTC
GB00BYQ9BP03	Markit iBoxx ADBI Vietnam	IBXXADV N	.IBXXADV N	IBXXADV P	.IBXXADV P

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 Markit iBoxx ADBI Index

01 May 2024	Annual Index Review 2023 <ul style="list-style-type: none"> Update to Agencies' Classification Definition <ul style="list-style-type: none"> Updated definition of 'Agencies' Updated definition for 'Other Sub-Sovereigns'
30 Jun 2023	Annual Index Review 2022 <ul style="list-style-type: none"> Introduction of 'Maturity extension' section Index eligibility of bonds with extended workout dates Creation of 'Renewable Energy Sector' within the 'Corporates' classification Distressed Debt Exchanges – Rule Update
31 Jul 2022	Monthly forward start date updated from 10th calendar day to 6th calendar day
31 Mar 2022	Annual Index Review 2021 <ul style="list-style-type: none"> Introduction of new market sector classification "Education" with market sub-sector classification "Academic & Educational Services"
01 Sep 2021	Monthly forward start date updated from 12th calendar day to 10th calendar day
31 Jul 2021	Implementation of US Executive Orders 13959/14032 sanctions in – <ul style="list-style-type: none"> iBoxx ADBI Index
28 Feb 2021	Annual Index Review 2020 <ul style="list-style-type: none"> Updated Insurance classification RegS and 144A tap issuance update
31 Jan 2021	Governance and Regulatory Compliance section added
31 Jul 2020	Annual Index Review 2019 <ul style="list-style-type: none"> Introduction of updated corporate classification schema Implementation of updated Bank Tier Classification Updates as part of the changes in definition and treatment of hybrid bonds
31 Jan 2020	<ul style="list-style-type: none"> Definition update of Guaranteed and Wrapped Definition update of Other Sub-Sovereign classification as part of Annual Index Review 2019
31 Jan 2018	Annual Index Review 2017 <ul style="list-style-type: none"> Unify amount outstanding criteria to USD 250m for allbonds Review of bond types for ADBI <ul style="list-style-type: none"> Inclusion of callable bonds with a call only 1 year or less prior to maturity Inclusion of loan participation notes Addition of Bangladesh and Pakistan to the list of eligible issuer domiciles Change of rating methodology for split-rated bonds to average rating
21 Sep 2016	Clarification on amount outstanding of the exchanged bonds

01 Mar 2016	Clarification on the index holiday schedule
19 Feb 2016	Update to the Rebalancing process
20 Jan 2016	Launch of the Markit iBoxx ADBI Index Family

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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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).

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