



iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA Index Guide

August 2022

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1 iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA

The iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA is designed to reflect the performance of USD denominated sub-investment grade bonds issued by entities domiciled in the Asia ex-Japan region. The index is an integral part of the global iBoxx index families, which provide the marketplace with accurate and objective reference indices by which to assess the performance of bond markets and investments.

The index applies ESG filters to high yield bonds with remaining time to maturity of more than 1 year and an issuer notional of at least USD 400m to screen out issuers that breach ESG standards and product involvement screens on Thermal Coal, Adult Entertainment, Alcohol, Gambling, Tobacco, Controversial Weapons, Nuclear Weapons, Conventional Weapons, Civilian Firearms, Nuclear Power, Genetically Modified Organisms and Cannabis Recreational as captured by MSCI ESG Research. Issuers in breach of the UN Global Compact or with notable controversies related to its operations and/or products with a severe social or environmental impact are also not eligible for the index. In addition, an ESG tilt and momentum factor is applied. The index has a 3% issuer cap and 50% sector cap, where excess weights are redistributed proportionately to the remaining bonds.

The bonds in the iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA must meet all the criteria described below as of the close of business three business days prior to the rebalancing date provided that the relevant bond data can be verified as of such date ("bond selection cut-off date"). The index is rebalanced on a monthly basis and is market-value weighted. 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 MSCI ESG USD Asia ex-Japan High Yield Capped TCA uses multi-source prices as described in the document *iBoxx Pricing Rules* publicly available under methodology on <http://www.ihsmarkit.com/>.

This document covers the index selection rules and calculation methodology.

1.1 Publication of the Index

The index is calculated from Monday to Friday, including calendar month-end dates irrespective of holidays. The index is calculated on the basis of end-of-day prices on each trading day. If the indices are calculated on a day that is a non-business day, the prices from the previous trading day will be carried forward for index calculation together with the current accrued interest and coupon payment data. The approximate publication time for the Asian end-of-day is 7 pm HKT/SGT. 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.

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 iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA captures USD-denominated sub-investment grade rated debt from issuers domiciled in the Asia ex-Japan region. Further, the selection criteria used to determine the index constituents broadly follow the below three categories:

- Eligible geographies
- Bond selection
- ESG screening

2.1 Eligible geographies

2.1.1 Issuer domicile

Only issuers from countries/territories belonging to the Asia ex-Japan region are eligible for the index.

As of 31 May 2021, the following countries/territories are represented in the index:

Country / Territory

- | | | |
|---------------|-----------------|------------------|
| • Cambodia | • Hong Kong SAR | • India |
| • Indonesia | • Macao SAR | • Mainland China |
| • Mongolia | • Philippines | • Singapore |
| • South Korea | • Thailand | • Vietnam |

2.1.2 Defaulted countries/territories and sovereign debt rating

Issuers that are domiciled in countries/territories in default on their external debt or that do not have a long term foreign debt rating from at least one of Fitch, Moody's or S&P are excluded from the indices. A default is determined based on information from the rating agencies, either through rating reports or ratings of D or RD from Fitch, C or Ca from Moody's and D or SD from S&P.

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

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

2.1.3 Countries/territories on financial sanctions regimes

Issuers which are domiciled in countries/territories that are on the financial sanctions' lists of the European Union or the US are excluded from the index, 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

When a country/territory is placed on the EU or the US sanctions lists, IHS Markit will assess the likely impact on international bondholders. IHS Markit may consult with the External Advisory Committee to review the applicability of specific sanctions. Any decision will be published and the index rules updated accordingly.

The information about the sanctions regime is compiled from:

- For the European Union from the Common Foreign & Security Policy at http://eeas.europa.eu/cfsp/sanctions/docs/measures_en.pdf
- For the US from the Office of Asset Control (OFAC) at <http://www.treas.gov/offices/enforcement/ofac/>

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

- North Korea

2.2 Bond selection

The following selection criteria are used to determine the index constituents from the USD denominated bond universe.

2.2.1 Issuer type

Only bonds issued by corporate issuers are eligible for the index.

2.2.2 Bond type

General inclusion criteria:

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

In particular, the following bond types are eligible:

- Fixed coupon bonds
- Zero coupon bonds
- Callable 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
- Perpetuals and fixed-to-float bonds with a reset date at or after the first call date

The following bond types are specifically excluded:

- Floating Rate Notes
- AT1 contingent convertibles and preference share-style AT1s
- 144As and private placements
- Retail bonds
- Inflation and other index-linked bonds
- Structured notes
- Collateralized bonds and brady bonds
- Catastrophe bonds
- Payment-In-Kinds (PIKs)
- Optional and mandatory convertible bonds
- 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 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 <https://ihsmarkit.com/products/indices.html> under *Indices News* for future reference and to ensure decision's consistency.

In instances where a new bond type is not specifically excluded or included according to the published index rules, IHS Markit will analyse the features of such securities in line with the principles set out in 2.1 of 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.

2.2.3 Time to maturity

All bonds must have a remaining time to maturity of at least one year at rebalancing. 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 time to maturity is calculated from the rebalancing date to the assumed workout date of the bond, by using the day count convention of the bond.

The workout date for a bond is determined based on the bond features as follows:

- For plain vanilla bonds, the expected workout date is the final maturity date
- 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 workout date is determined using the first call date
- For sinking funds and amortizing bonds, the workout date is based on the average life

2.2.4 Credit rating

Rated and unrated bonds are eligible for the index.

For rated bonds, they must be rated high yield by one or more of the following three credit rating agencies to be considered for the index:

- 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 *Markit iBoxx Rating Methodology* document. The methodology can be found on www.ihsmarkit.com under *Methodology*.

Defaulted bonds are ineligible for the index. Bonds that are in default or that trade flat of accrued are removed from the index at the first rebalancing following the default/start of trading flat of accrued.

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 on www.ihsmarkit.com under Documentation – iBoxx → Methodology.

Unrated bonds with an implied credit quality of BB or lower are eligible for the index.

2.2.5 Amount Outstanding

All eligible bonds must be denominated in USD and the minimum outstanding amount required is 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.

2.2.6 Minimum Issuer Notional

Bonds from issuers with a minimum aggregate issuer notional of USD 400m are eligible.

2.2.7 International clearability

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

- Clearstream
- Euroclear
- Hong Kong CMU

2.2.8 US Executive Order 13959 sanctions

The index follows the Executive Order treatment of the iBoxx USD Asia ex-Japan (Restricted) indices, excluding bonds and/or issuers identified to be subject to the US Executive Order 13959 sanctions.

2.2.9 Issuer cap

Issuers and sectors are subject to a maximum weight of 3% and 50% respectively in the index on the index rebalance date. The excess weight is equally redistributed to the remaining bonds.

2.3 ESG screens

The iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA screens out constituents based on the following ESG-related criteria.

2.3.1 MSCI ESG Business Involvement Screening

Issuers with exposure to the following activities and at the following thresholds are excluded:

- *Adult Entertainment*
 - > derives 5% or more revenue from production of Adult Entertainment material, or;
 - > derives 15% or more revenue from Adult Entertainment material.
- *Alcohol*
 - > derives 5% or more revenue from production of Alcohol-related products, or;
 - > derives 15% or more revenue from Alcohol-related products.
- *Cannabis Recreational*
 - > produce and/or retail cannabis for recreational use.
- *Civilian Firearms*
 - > involved in production of civilian firearms, or;
 - > derives 5% or more revenue from civilian firearms.
- *Controversial Weapons*
 - > involved in production/ownership of chemical or biological weapons or related components, depleted uranium weapons, blinding lasers, non-detectable weapons, incendiary weapons, or;
 - > has industry tie to manufacturing of landmines, except those for safety purposes, or;
 - > has industry tie to cluster bombs.
- *Conventional Weapons*
 - > derives 5% or more revenue from production of Conventional Weapons, or;
 - > derives 15% or more revenue from weapons systems, components, and support systems and services.

- *Gambling*
 - > derives 5% or more revenue from ownership or operation of Gambling-related activities, or;
 - > derives 15% or more revenue from Gambling-related activities
- *Genetically Modified Organisms*
 - > derives 5% or more revenue from genetic engineering related business activities.
- *Nuclear Power*
 - > generates 5% or more of its total electricity from nuclear power, or;
 - > has 5% or more of installed capacity attributed to nuclear sources, or;
 - > derives 15% or more revenue from Nuclear Power-related activities.
- *Nuclear Weapons*
 - > manufactures nuclear warheads and/or whole nuclear missiles, or;
 - > manufactures components for nuclear-exclusive delivery platforms, or;
 - > provides auxiliary services related to nuclear weapons, or;
 - > manufactures components that were developed or are significantly modified for exclusive use in nuclear weapons, or;
 - > manufactures components that were not developed or not significantly modified for exclusive use in nuclear weapons but can be used in nuclear weapons, or;
 - > manufactures or assembles delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons, or;
 - > manufactures or assembles delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons but have the capability to deliver nuclear weapons.
- *Tobacco*
 - > involved in production of Tobacco products, or;
 - > derives 5% or more revenue from Tobacco products.

2.3.2 MSCI Climate Change Metrics

- Thermal coal
 - > derives 30% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading
 - > derives 30% or more revenue (either reported or estimated) from the thermal coal based power generation

2.3.3 MSCI ESG Ratings

- all issuers without ESG ratings or coverage are excluded

2.3.4 MSCI ESG Controversies

- Controversies score
 - > all companies that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services. In particular, companies with an MSCI ESG Controversies Score of 0 are excluded.

At rebalance, all MSCI ESG Research data used is as of the cut-off date (t-2). Corporate issuers that have incomplete MSCI ESG Research data coverage as of the bond selection cut-off date are excluded from the index.

2.3.5 ESG Tilt

An ESG rating tilt factor is applied on the weight of the underlying bonds according to the following table:

ESG Rating	Rating Tilt Factor
AAA	1.75
AA	1.50
A	1.25
BBB	1
BB	1/1.25
B	1/1.50
CCC and Below	1/1.75

2.3.6 ESG Momentum

The following ESG ratings momentum factor is applied on the weight of the underlying bonds according to the following table.

ESG Rating Momentum	Momentum Factor
Positive	2
Neutral	1
Negative	0.5

A 12-month lookback period is used in the momentum strategy.

- If a bond's ESG rating has improved over the period, it is considered to be showing positive momentum
- If the bond's ESG rating stays the same over the period, it is considered neutral
- If a bond's ESG rating has dropped over the period, it is considered to be showing negative momentum
- If a bond does not have an ESG rating in the lookback window and gets assigned an ESG rating, it is considered neutral

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 IHS Markit 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 on www.ihsmarkit.com for registered users.

3.1 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	Oil & Gas	Oil & Gas	Oil & Gas Producers

		Oil Equipment / Services & Distribution
		Alternative Energy
Basic Materials	Chemicals	Chemicals
	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

3.2 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 \geq 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 *Markit iBoxx Pricing Rules* document, available in the *Methodology* section of the iBoxx Documentation page on www.ihsmarkit.com.

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 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 6th 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 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. 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 index is transaction cost adjusted.

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 www.ihsmarkit.com.

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, IHS Markit will estimate the approximate value based on the available data at the time of calculation.

4.6.1 Index and analytics weights

The iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA 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 funge 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 funge 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 funge 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.

4.7 Index history

The Index history starts on 31 December 2018. 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 www.ihsmarkit.com. 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 summarises the publication of iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA in the *Indices* section of the IHS Markit website www.ihsmarkit.com for registered users and on the FTP server.

Frequency	File Type	Access
Daily	Underlying file – Bond level	IHS Markit FTP Server
	Indices file – Index level	IHS Markit FTP Server / IHS Markit website / Bloomberg for index levels only
Every Friday, T-4, T-3, & T-2	Forwards file	IHS Markit FTP Server
Monthly	End of Month Components	IHS Markit FTP Server / IHS Markit website

Below is a summary of the IDs for each publication channel:

Index Name	Version	ISIN	BBG	RIC
iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA	TRI	GB00BL0B0R64	IBXXUXJT	.IBXXUXJT
iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA	CPI	GB00BL0B0S71	IBXXUXJP	.IBXXUXJP

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.ihsmarkit.com shortly after the EACs have been held. The publication will contain a detailed overview and timelines for implementation of any rules changes.

5 Summary of key ESG factors

Explanation of how ESG factors are reflected in the key elements of the benchmark methodology	
Item 1: Benchmark administrator	IHS Markit Benchmark Administration Ltd. ('IMBA UK')
Item 2: Type of benchmark	Fixed income corporate benchmark
Item 3: Name of benchmark or family of benchmarks	iBoxx MSCI USD Asia ex-Japan High Yield Capped Index
Item 4: Does the benchmark methodology take into account ESG factors	Yes
Item 5a: List of Environmental factors considered	<p>Exclusion driven by exposure to the following factors:</p> <ul style="list-style-type: none"> ● Thermal coal <p>See section 'MSCI ESG Research' of this guide for details</p>
Item 5b: List of Social factors considered	<p>Exclusion driven by exposure to the following factors:</p> <ul style="list-style-type: none"> ● Controversial weapons ● Nuclear weapons ● Weapons ● Civilian firearms ● Tobacco ● Adult entertainment ● Alcohol ● Gambling ● Nuclear power ● Genetically modified organisms ● Cannabis recreational <p>See section 'MSCI ESG Research' of this guide for details</p>
Item 5c: List of Governance factors considered	<p>Exclusion driven by exposure to the following factors:</p> <p>N/A</p>
Item 5d: List of any other overall ESG factors	<p>Exclusion driven by additional factors:</p> <ul style="list-style-type: none"> ● Overall ESG rating ● Controversies score <p>See section 'MSCI ESG Research' of this guide for details</p>
Item 6: Hyperlink to ESG factors information	iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA
Item 7a(i): Source of input	Data is sourced externally from MSCI ESG Research LLC ("MSCI ESG Research")
Item 7a(ii): Data input	<p>MSCI ESG Research relies on a proprietary methodology informed by a range of data sources.</p> <p>a) Reported data</p> <ul style="list-style-type: none"> ● Corporate documents: annual reports, proxy filings, environmental and social reports, securities filings, websites and Carbon Disclosure Project responses. <p>Externally sourced data</p> <ul style="list-style-type: none"> ● Government data: central bank data, U.S. Toxic Release Inventory, Comprehensive Environmental Response and Liability Information System (CERCLIS), RCRA Hazardous Waste Data Management System, etc. We continue to

assess the value of other, similar information sources, particularly for European companies.

- Popular, trade, and academic journals: accessed through websites, subscriptions and searches of online databases.
- News media: major news publications globally, including local-language sources across a range of markets.
- Relevant organizations and professionals: reports from and interviews with trade groups, industry experts and nongovernmental organizations familiar with the companies' operations and any related controversies

b) Modelled data

For climate-related metrics, when data is not disclosed by companies, MSCI ESG Research uses proprietary GHG emission estimation model (full methodology is available for MSCI ESG Research clients).

c) Internally sourced data

For international standards and global norms violations, MSCI ESG Research uses data reported via media sources and NGO reports. MSCI ESG Research's assessment of this data is informed by international standards and global norms definitions.

For top level scores (ESG Ratings, Environmental, Social and Governance pillars), MSCI ESG Research estimates macro-level risk exposure for companies' based on the type and location of operations, distribution of products. Data sources used in the exposure calculations include, but not limited to:

- Comprehensive Environmental Data Archive (CEDA)
- US Department of Energy; International Council on Clean Transportation
- Lamont-Doherty Earth Observatory, Columbia University
- Organization of Economic Co-Operation and Development (OECD)
- Canadian Industrial Water Survey
- University of New Hampshire's Water Systems Analysis Group (country data)
- Hoekstra, A.Y. and Mekonnen, M.M. (2011)
- Ecorisk
- World Development Indicators (WDI)
- Annual Change of Forest Resources – Food and Agriculture Organization (FAO)
- World Wildlife Fund (WWF)
- US EPA's Toxics Release Inventory (TRI)
- Risk-Screening Environmental Indicators (RSEI)
- US Bureau of Labor Statistics (BLS)
- International Labour Organization (ILO)
- US Occupational Health & Safety Administration (OSHA)
- UK Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- International Chemical Secretariat (ChemSec) Substitute It Now (SIN) List
- International Monetary Fund (IMF)
- World Health Organization (WHO)
- UN Principles for Responsible Investments (UN PRI)
- World Resource Institute (WRI)

- Consultative Group to Assist the Poor (CGAP)
- US Census Bureau Current Population Survey Supplement
- World Bank Governance Indicators (WGI)
- Transparency International (TI)
- World Bank (WB)
- SNL Financial
- Thomson Financial

Item 7b: Verification and quality of data

MSCI ESG Research relies on multiple steps to review the quality of the analysis as well as the consistency of the methodology and the ratings signal. Four groups are responsible for quality review: Industry and Team Leads; the ESG Ratings Methodology Committee; the ESG Methodology Committee; and the Quality Review Committee.

MSCI ESG Research is committed to robust and transparent communication with all issuers in our coverage universe. This commitment includes:

- A data review process that allows companies to comment on the accuracy of company data for all MSCI ESG Research reports.
- Free access for issuers to published versions of all their MSCI ESG Research company reports.
- Direct communication with a company concerning specific company ESG performance.
- A timely response to company-initiated requests to discuss their MSCI ESG Research reports.

Companies are invited to participate in the data review process prior to the annual update of their ESG rating. At that time, companies have the opportunity to review and comment on the facts contained in their existing MSCI ESG Ratings report, as well as to provide MSCI's ESG Research team any additional ESG information, if they wish. In addition, MSCI ESG Research analysts may follow up directly with a company to clarify questions concerning ESG performance data.

Due to publication schedules and the extent of the MSCI ESG Ratings coverage universe, companies normally receive the newly updated ratings data to review at their convenience at the time of rating publication. All published companies automatically receive the data review reports, as long as MSCI ESG Research has accurate contact information. We are committed to updating a company profile as required in a timely manner and will consider comments and feedback at any time. This process is also in accordance with the objective of frequently updating company reports with the latest available information as provided by companies. Please note that updates to ESG data will not necessarily result in changes to a company's ESG rating.

Companies are monitored on a systematic and ongoing basis, including daily monitoring of controversies and governance events. New information is reflected in reports on a weekly basis and significant changes to scores trigger analyst review and re-rating.

Companies also receive an in-depth review at least annually. For companies in the MSCI ACWI, annual ratings are updated with their industry peers. All other companies are updated within a 12-month timeframe of their previous rating assessment, typically with their industry peers.

Item 7c: International reference standards	MSCI ESG Research does not explicitly mandate reporting along specific disclosure standards. Commonly utilized disclosure frameworks for data collected and used by MSCI ESG Research include GRI, SASB, UN Global Compact; and, for specific performance indicators, GHG Protocol, and applicable ISO standards.
Item 8a: Information updated on	29 June 2021
Item 8b: Reason for update	Index launch

6 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](#).

7 Changes to iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA

31 August 2022	Transaction Cost Adjustment methodology and index name
30 June 2022	MSCI ESG Research data cut-off (t-2) applied
20 October 2021	Update of data publication and access section
30 June 2021	Launch of iBoxx MSCI ESG USD Asia ex-Japan High Yield Capped TCA

8 Further information

Glossary of key terms

The Markit iBoxx Glossary document of key terms is available in the *Methodology* section of the iBoxx *Documentation* page on www.ihsmarket.com.

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Content modified: 2022-08-31T15:43:46.000+02:00

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