

Markit iBoxx ALBI™ Index Guide

January 2016

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Changes to the Markit iBoxx ALBI Index Family

20 January 2016 Launch of the Markit iBoxx ALBI index family

1 iBoxx ALBI Indices

The Markit iBoxx Asian Local Bond Index family (“iBoxx ALBI”) is designed to reflect the performance of local currency bonds from 11 Asian local currency bond markets. The index offers a broad coverage of the universe of internationally accessible bonds from China’s on- and offshore markets, Hong Kong, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand, whilst upholding minimum standards of investability and liquidity. As of 31 December 2015, the index tracks more than 1250 bonds. The indices are an integral part of the global Markit iBoxx index families, which provide the marketplace with accurate and objective benchmarks by which to assess the performance of bond markets and investments.

The iBoxx ALBI Index family comprises an overall index and indices for each currency. Sovereign and non-sovereign sub-indices are calculated for those markets where the index includes non-sovereign bonds. All iBoxx indices are priced based on multiple data inputs. The iBoxx ALBI indices use multi-source prices as described in the document “Markit iBoxx Pricing Rules” publically available on the Methodology page of <http://www.markit.com/Documentation/Product/IBoxx>.

Additionally, the index rules and their application will be governed by the Asian iBoxx Oversight Committee. This document covers the index family structure, rules and calculation methodology.

1.1 Index family structure

The figure below provides an overview of the index family structure:

Markit iBoxx Asian Local Bond Index family		
Market	Sovereigns	Non-Sovereigns
<ul style="list-style-type: none"> — China – onshore — China – offshore (IG, HY & unrated)* — Hong Kong (1-3, 3+, 1-5, 5+) — India — Indonesia — Malaysia — Philippines (1-3, 1-5, 5+, Liquid, Money market) — Singapore — South Korea — Taiwan — Thailand 	<ul style="list-style-type: none"> — China – offshore — Hong Kong (1-3, 3+, 1-5, 5+) — Malaysia — Singapore 	<ul style="list-style-type: none"> — China – offshore (Investment Grade) — Hong Kong (1-3, 3+, 1-5, 5+) — Malaysia — Singapore

* Available sub-indices

1.2 Index governance

In order to ensure the independence and the objectivity of the iBoxx ALBI Index family, the index rules and their enforcement will be governed by the Asian iBoxx Oversight Committee, in line with the governance structure for the main Markit iBoxx index families.

The Oversight Committee is comprised of representatives from a broad range of asset managers, consultants and industry bodies. The purpose of this committee is to review the recommendations made by Markit and also to provide consultation on any market developments which may warrant rule changes.

1.3 Publication of the iBoxx ALBI Indices

For all indices, end-of-day closing values are calculated and distributed once daily after the close of trading in the market. The approximate publication time is 10 p.m. HKT/SGT. The indices are calculated every day except on holidays common to all 11 Asian markets. In addition, the indices are calculated with the previous trading day's close on the last calendar day of each month if that day is not a trading day. Markit publishes an index calculation calendar which is available in the indices section on <http://www.markit.com/Documentation/Product/IBoxx> under *Calendar*.

Bond and index analytical values are calculated each trading day using the daily closing prices. Closing index values and key statistics are published at the end of each business day in the indices section on www.markit.com/indices for registered users.

Index data is also available from the main information vendors, including Bloomberg and Thomson Reuters. Please refer to chapter 5.11 for details.

2 Bond selection rules

Bond selection criteria are applied consistently across all 11 currencies and markets. The constituents of the local currency indices are the basis for the aggregate Pan-Asia index.

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

- Bond type
- Issuer type
- Credit Rating
- Time to maturity
- Amount outstanding

The rules for the individual bond markets comprising the iBoxx ALBI differ slightly to reflect the differences in the underlying markets in terms of issuers, ratings and regular bond issuance sizes. The rules for each market are detailed below.

2.1 Bond type

Only bonds with predetermined cash flows are eligible for the indices.

Eligible bond types:

- Fixed and step-up coupon bonds
- Zero coupon bonds

Exceptions:

- **Fixed coupon certificates of deposit (Fixed coupon CDs)** are only eligible for the China offshore and Hong Kong segments and are not eligible for the other 9 markets.
- **Zero coupon certificates of deposit (Zero coupon CDs)** are only eligible for the China offshore market and are not eligible for the other 10 markets.
- **Retails bonds** are only eligible for the Philippines segment and are not eligible for the other 10 market.

Excludes bond types:

- Bonds with embedded call or put options (except make-whole, tax changes calls and poison puts which remain eligible)
- Other Certificates of Deposit
- Floating rate notes and other fixed-to-floater bonds
- Sinking funds and amortizing bonds
- Bonds with warrants
- Convertibles
- Undated bonds

- 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.
 - Loan Participation Notes
 - Other retail bonds. The list of retail bonds is updated every month and published on www.markit.com/indices under *Indices News*.
 - Private placements
 - Collateralised and covered bonds.

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 Markit's discretion based on the information available at the time of determination. 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 <http://www.markit.com/NewsInformation/GetNews/IBoxx> for future reference and to ensure consistency of treatment over time.

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

2.3 Credit rating

Domestic central government debt does not require a rating. Requirements for other bond issues vary depending on the currency.

For those markets with a credit rating requirement, the rating approach considers international and domestic rating agencies separately. The iBoxx rating is the corresponding iBoxx international rating, or in the absence of an international rating the iBoxx domestic rating.

2.3.1 iBoxx international rating

Ratings from the following three credit rating agencies are considered:

- Fitch Ratings
- Moody's Investor Service
- Standard & Poor's Rating Services

The rating process is predominately based on bond ratings. If no rating agency provides a bond rating then issuer ratings are considered for otherwise unrated senior bonds. Subordinated bonds without bond ratings or senior bonds without any bond or issuer rating are considered unrated.

Bonds are considered to be split-rated if one or more of the agency ratings is A-/A3 or higher AND one or more of the agency rating is BBB+/Baa1 or lower.

If more than one agency rates a bond then the iBoxx international rating is determined as follows:

- For bonds that are not split-rated, the average rating determines the index rating
- For newly issued split rated subordinated debt, and for split rated senior bonds from issuers not currently in ALBI, the minimum rating is assigned to the bond.
- For split-rated bonds already included in the index and for newly issued senior bonds from issuers currently represented within ALBI the maximum rating is assigned to the bonds.

2.3.2 iBoxx domestic rating

The iBoxx domestic rating is currently only used for MYR-denominated non-sovereign bonds. Only ratings from RAM are considered. The iBoxx domestic rating is the corresponding bond rating from RAM. For senior bonds, in the absence of a bond rating, the RAM issuer rating is used as the iBoxx domestic rating.

2.4 Bond selection rules for individual markets

2.4.1 iBoxx ALBI China – onshore

Issuer type	Sovereigns	<ul style="list-style-type: none"> — Eligible: Bonds issued by the Ministry of Finance — Not eligible: Bonds issued by the People’s Bank of China and bonds issued by local governments but backed by the central government
	Non-sovereigns	— Not eligible
Amount outstanding		— CNY 10bn
Listing/Clearing venue		— Bonds listed on the Interbank market

2.4.2 iBoxx ALBI China – offshore

Issuer type	Sovereigns	— Eligible
	Non-sovereigns	— Eligible

Credit rating	— None
Amount outstanding	— CNY 500m
Listing/Clearing venue	<ul style="list-style-type: none"> — Bonds issued in Hong Kong, Macau, or outside of the People's Republic of China — Bonds solely listed/registered in Taiwan are not eligible — Bonds need to be clearable through one of the following venues: <ul style="list-style-type: none"> — Clearstream — Euroclear — Hong Kong CMU

2.4.3 iBoxx ALBI Hong Kong

Issuer type	Sovereigns	— Eligible
	Non-sovereigns	— Eligible
Credit rating	— A- or above	
Amount outstanding	— HKD 300m	

2.4.4 iBoxx ALBI India

Issuer type	Sovereigns	— Eligible
	Non-sovereigns	— Not eligible
Amount outstanding	— INR 50bn	
Liquidity criteria	<ul style="list-style-type: none"> — (Up to) 14 bonds are selected from the universe of eligible Indian government bonds. The index comprises the most actively traded bonds whilst ensuring a representative selection across the Indian government yield curve. — The selection process is run semi-annually on 30 June and 31 December each year as described below. As a measure of liquidity, the selection uses the trading volumes as reported by the Clearing Corporation of India for the quarter ending 30 June and 31 December respectively. — The India government yield curve is split into 5 maturity segments, 	

	<p>each with a target number of bonds:</p> <ul style="list-style-type: none">— 1-5 years: 4±1 bonds— 5-8 years: 3±1 bonds— 8-10 years: 2±1 bonds— 10-20 years: 3 bonds— 20+ years: 2 bonds <p>— The number of bonds in the below 10 year maturity bands may vary by 1 to allow for bonds to naturally progress to a shorter maturity segment over time (subject to liquidity) and to reduce turnover in the index constituents list.</p> <p>— Exclusion of index constituents (“index leaver”):</p> <ul style="list-style-type: none">— Time to maturity less than 1.5 years— Quarterly trading volume below INR 1bn <p>— Index constituents eligible for inclusion:</p> <ul style="list-style-type: none">— All bonds issued within the last 12 months <p>— Replacement of index leavers:</p> <ul style="list-style-type: none">— The most liquid eligible bond from the same maturity segment, or if none available;— The most liquid eligible bond overall, subject to the bond restriction per maturity segment <p>— Replacement of incumbent index constituents:</p> <ul style="list-style-type: none">— Incumbent index constituents are replaced by a new bond if the trading volume of the new bond is at least twice the trading volume of the incumbent— A new bond can replace bonds from the same maturity segment as well as bonds from maturity segments that are above their target number (e.g. if the 8-10 year segment has 3 index constituents)— If more than one incumbent fails the trading volume test, then the one with the lowest trading volume is replaced first
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2.4.5 iBoxx ALBI Indonesia

Issuer type	Sovereigns	<ul style="list-style-type: none"> — Eligible: Conventional Indonesian government bonds — Not eligible: Indonesian government Sukuk
	Non-sovereigns	— Not eligible
Amount outstanding		— IDR 2trn

2.4.6 iBoxx ALBI Malaysia

Issuer type	Sovereigns	— Conventional bonds and Sukuk are eligible
	Non-sovereigns	— Conventional bonds and Sukuk are eligible
Credit rating		<ul style="list-style-type: none"> — A- or above — Bonds issued or guaranteed by the Malaysian (central) government do not require a rating
Amount outstanding		<ul style="list-style-type: none"> — Sovereigns: MYR 2bn — Non-sovereigns: MYR 500m
Liquidity criteria		<ul style="list-style-type: none"> — The liquidity criteria only apply to non-sovereigns. Government bonds are not subject to the criteria — Bonds need to be actively traded in order to become eligible for the indices. Bonds are included in the index if they show the following trading activity at the first or second rebalancing following their issue: <ul style="list-style-type: none"> — 5 days with trading volumes of at least MYR 5m during the rebalancing month — Bonds that do not pass the trading activity rule during the initial two rebalancings will not be considered for the indices at future rebalancings.

2.4.7 iBoxx ALBI Philippines

Issuer type	Sovereigns	— Domestic Philippine government bonds — Retail bonds are eligible
	Non-sovereigns	— Not eligible
Amount outstanding		— PHP 3bn

2.4.8 iBoxx ALBI Singapore

Issuer type	Sovereigns	— Eligible
	Non-sovereigns	— Eligible
Credit rating		— None
Amount outstanding		— Sovereigns: SGD 1.5bn — Non-sovereigns: SGD 300m

2.4.9 iBoxx ALBI South Korea

Issuer type	Sovereigns	— Eligible: Korean Treasury Bonds, Monetary and FX Stabilisation Bonds — Not eligible: Korea National Housing Bonds
	Non-sovereigns	— Not eligible
Amount outstanding		— KRW 1 trn

2.4.10 iBoxx ALBI Taiwan

Issuer type	Sovereigns	— Eligible
	Non-sovereigns	— Not eligible
Amount outstanding		— TWD 30bn

2.4.11 iBoxx ALBI Thailand

Issuer type	Sovereigns	— Eligible
	Non-sovereigns	— Not eligible
Amount outstanding		— THB 20bn

2.5 Special Philippine government bond indices

In addition to the standard Markit iBoxx ALBI Philippines, two additional indices covering the Philippine fixed income market are calculated.

2.5.1 iBoxx ALBI Philippines Money Market Index

The index contains all Philippine government bonds and Treasury Bills with a remaining maturity of between 3m and 1 year and a minimum notional size of PHP 3 bn.

Retail bonds are eligible for the index.

2.5.2 iBoxx ALBI Philippines Liquid Index

The iBoxx ALBI Philippines Liquid Index contains only the most liquid and actively traded Philippine government bonds. The index is rebalanced quarterly on 31 March, 30 June, 30 September and 31 December each year.

Index constituents are selected from the overall universe of Philippine government bonds in two steps.

1. Determination of the eligible universe of bonds

In order to be eligible for the index, bonds need to fulfil the following criteria:

- Fixed coupon bullet bonds
- Denominated in PHP
- Retail bonds are eligible for the index
- Minimum time to maturity of 1.25 years for current index constituents and 2 years for potential inclusions
- Minimum size of PHP 3bn

2. Selection of index constituents from the eligible universe

Index constituents are selected from the universe of eligible bonds based on their quarterly trading volume.

The thresholds required for inclusion in the index are set in relation to the total trading volume for all PHP denominated government bonds (excluding T-Bills) to reflect periods of high and low market liquidity. The following thresholds are used:

- Inclusion Threshold: 2% of the total quarterly trading volume
- Watchlist Threshold: 1% of the total quarterly trading volume

- Exclusion Threshold: 0.2% of the total quarterly trading volume

The following rules are applied to select the index constituents:

- New bonds are eligible if:
 - Their adjusted trading volume is above the Inclusion Threshold and they have been issued in the current quarter; or
 - Their trading volume is above the Inclusion Threshold and they have been issued in the previous quarter; or
 - Their trading volume has been above the Inclusion Threshold for two consecutive rebalancings
- Current index constituents remain in the index if:
 - Their trading volume remains above the Watchlist Threshold; or
 - Their trading volume remains above the Exclusion Threshold and they are not on the watchlist
 - Current index constituents are put on the watchlist if their quarterly trading volume falls below the Watchlist Threshold and remains above the Exclusion Threshold
- Current index constituents are removed from the index if:
 - They are already on the watchlist and their trading volume is below the Watchlist Threshold; or
 - Their trading volume has fallen below the Exclusion Threshold

The adjusted trading volume for newly issued bonds is calculated as follows:

- Bonds issued in the first month of the quarter: No adjustment
- Bond issued in the second month of the quarter: Trading volume adjusted by the factor 1.5
- Bond issued in the last month of the quarter: Trading volume adjusted by the factor 3

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 Markit, and status changes are included in the indices at the next rebalancing if necessary. Where the sector classification of a specific entity is not very clear due to the diversified business of the entity, a decision will be made at Markit's discretion. Markit will assign the Markit classification according to its evaluation of the business risk presented in the security prospectus and annual reports, if available. Markit will also compare the classification to peers in the potential sectors, and Markit may consult

with the Index Advisory Committees. Membership lists including bond classifications are published on the FTP server and in the indices section of products.markit.com for registered users.

The main sector classifications within the iBoxx ALBI index family are described below:

3.1 Sovereigns

Bonds issued by a central government and denominated in the respective local currency

3.2 Other sovereigns

Bonds issued by a central government but denominated in a foreign currency.

3.3 Sub-sovereigns

Bonds issued by entities with explicit or implicit government backing due to legal provision, letters of comfort or the public service nature of their business. The five main sub-sovereign sectors are:

- **Agencies:** Bonds issued by entities whose major business is to fulfil a government-sponsored role to provide public, non-competitive services (e.g. Fannie Mae). Often, such business scope is defined by a specific law, or the issuer is explicitly backed by the government.
- **Supranationals:** Bonds issued by supranational entities, i.e. entities that are owned by more than one central government (e.g. World Bank, EIB).
- **Public Banks:** Bonds issued by publicly owned and backed banks that provide regular commercial banking services (e.g. Bank Nederlandse Gemeenten).
- **Regions:** Bonds issued by local governments (e.g. Province of Manitoba Canada).
- **Other Sub-Sovereigns:** All remaining bonds considered sub-sovereign. There are three main types of bonds and issuers falling into this category:
 - **Non-Financials.** A government backed issuer from a non-financial sector such as public utilities.
 - **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 programmes 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.

3.4 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 special

monoline insurer such as AMBAC or MBIA or through a letter of credit from a non-affiliated bank. The sector overview is shown in the table below.

	Economic Sector	Market Sector	Market Sub-Sector
Financials	Financials	Banks	Banks
		Insurance	Life Insurance
			Nonlife Insurance
		Financial Services	General Financial
		Real Estate	Real Estate
		Guaranteed & Wrapped	*
		Non-Financials	Oil & Gas
			Oil Equipment / Services & Distribution
	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
	Health Care	Health Care	Pharmaceuticals & Biotechnology

Consumer Services	Retail	Food & Drug Retailers
		General Retailers
	Media	Media
	Travel & Leisure	Travel & Leisure
Telecommunications	Telecommunications	Fixed Line Telecommunications
		Mobile Telecommunications
Utilities	Utilities	Electricity
		Gas / Water & Multiutilities
Technology	Technology	Software & Computer Services
		Technology Hardware & Equipment

4 Market weights

4.1 Background

The iBoxx ALBI indices cover a variety of markets with small, medium and large bond markets. Simply weighting by market capitalization would skew the index profile heavily in favour of the two biggest markets (China and Korea) and result in a very low weight of smaller debt markets (e.g. Hong Kong or Singapore), which are more developed, more liquid and accessible for investment. Therefore the standard index construction approach is unsuitable for Pan-Asian local currency debt and would prevent investors from obtaining a balanced exposure to the underlying bond markets.

4.2 Market weight composition

The weighting of the 11 markets included in the iBoxx ALBI index use the weights determined by HSBC for the calculation of the HSBC Asian Local Bond Index. The weights are reviewed annually by HSBC based on the following factors:

- Total size of each domestic debt market and the total market capitalization of each country index;
- Liquidity of the secondary bond market in each country, measured by bid-off spreads, daily turnovers, and the availability of price quotes;
- Accessibility to foreign investors in terms of currency convertibility, withholding taxes, ease of setting up and operating foreign-owned investment funds, ease of repatriating funds and profits; and
- Development of infrastructure conducive for fixed-income investments and trading, such as availability of domestic benchmark yield curves, interest rate derivative products (swaps and futures) and the availability of reliable credit rating systems for non-government issues.

The file containing current and historical weights for the index is available in the indices section on the Rules Benchmark page of <http://www.markit.com/Documentation/Product/IBoxx>.

5 Index calculation

5.1 Static data and foreign exchange data

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

FX spot and forward rates are sourced from WM Company. The daily index calculation uses the FX rates from 8am London time.

5.2 Bond prices

For more details please refer to the “Markit iBoxx Pricing Rules” document, available on the Methodology page of <http://www.markit.com/Documentation/Product/IBoxx>.

5.3 Withholding tax treatment

Withholding taxes are not taken into account the calculation of the iBoxx ALBI indices with the exception of PHP-denominated bonds. For PHP-denominated bonds, the 20% final withholding tax is applied to the iBoxx ALBI Philippines index and the PHP-denominated component of the iBoxx ALBI Overall and other aggregate indices containing PHP denominated bonds.

5.4 Rebalancing process

All iBoxx ALBI indices are re-balanced monthly on the last calendar day of the month after the close of business. Changes to static data, such as ratings, amounts outstanding, etc. are only taken into account if they are publicly known three business days before the end of the month. Changes in rating or amount outstanding on the last two trading days of the month are accounted for at the next re-balancing. New bonds issued must settle before the end of the month and all relevant information must be known at least three trading days before the end of the month.

The classification of existing bonds is also reviewed at each monthly re-balancing, and resulting classification changes are implemented at the re-balancing.

Four business days before the end of each month, a preliminary membership list is published on the FTP server and in the indices section on www.markit.com/indices under *Data* → *Bond List Preview* for registered users.

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

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

5.5 Index data

A sub-index of the iBoxx ALBI index family is calculated if at least one bond matches all inclusion criteria. If no more bonds qualify for an index, then its level will remain constant. If at least one bond becomes available again, the index calculation will be resumed and 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.

Calculation occurs on a daily basis as soon as the prices become available. The indices are calculated on each trading day (Monday to Friday), unless this day is a holiday in each of the 11 markets. 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 in one or more of the markets, then the prices for bonds denominated in the currency of those markets will be carried forward from the previous trading day and the index will be calculated using those prices and the current accrued interest and coupon payment data.

The calculation of the indices is based on bid prices. New bonds are included in the indices at their respective ask prices when they enter the index family. In the event that no price can be established for a particular bond, the index continues to be calculated based on the last-available price. This might be the case in periods of market stress, or disruption as well as in illiquid or fragmented markets. If the required inputs become impossible to obtain, Markit may consult the specific Index Advisory Committees at the following rebalancing date. To ensure consistency, decisions taken are made publicly available on a timely basis and Markit has the ability to refer back to previous cases.

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

5.6 Index calculus

For specific index formulae refer to *Markit iBoxx Bond Calculus* document, available on the Markit iBoxx Methodology page of <http://www.markit.com/Documentation/Product/IBoxx>.

5.7 Treatment of the special intra-month events

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

5.7.1 Index and analytics weightings

The individual single currency iBoxx ALBI indices are volume-weighted indices, with a bond's base market value as the weighting factor. The base market value and amount outstanding of a bond are only adjusted within the monthly re-balancing process at the end of each month. However, bonds that are fully redeemed intra-month are also taken into account immediately.

Definitions:

- *Fully redeemed bonds*: Bonds that are fully called or have been 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 are taken into account to arrive at a suitable basis for the index and the analytics calculation. Consequently, all calculations are based on the adjusted amount outstanding.

5.7.2 Scheduled partial redemptions: sinking funds and amortizing bonds

Price and accrued interest:

Are quoted and calculated to the actual amount outstanding (par) → scheduled redemptions within the period are taken into account immediately.

Coupon payments:

Refer to the scheduled amount outstanding over the last coupon period → scheduled redemptions within the month are not taken into account.

5.7.3 Funged bonds

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

- 5.7.3.1 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 re-balancing and parent amount outstanding increases accordingly.
- 5.7.3.2 Parent is an index constituent, but the new tranche is not
 - No special intra-month treatment necessary
 - Parent amount outstanding increases at the next re-balancing
- 5.7.3.3 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 re-balancing

5.7.4 Unscheduled full redemption – 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 $F_{i,t}$, Redemption $R_{i,t}$ and the Redemption Price $RP_{i,t}$ 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 accrued interest until the redemption date is treated as an irregular

coupon payment so that the accrued interest shown is set to 0 and the coupon payment contains the amounts paid in excess of the clean redemption price.

5.7.5 Bonds trading flat of accrued

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

The Technical Committee is responsible for identifying bonds trading flat of accrued.

5.7.6 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 predefined 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 a bond, e.g. register-driven bonds, or failure to complete a merger, e.g. 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 rating changes on 31 December 2003 from A- to BBB+, and the coupon steps up from 6% to 6.25% from 01 March 2004 onwards. The coupon dates are 01 October and 01 April each year. The correct coupon schedule for the bond and index calculations is now 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 01 April uses a 6.25% coupon.

5.7.7 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 $CP_{i,t}$. 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 $XD_{i,t}$ 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.

5.8 Index history

The index history starts on 31/12/2012 with a base value of 100.

5.9 Settlement conventions

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

5.10 Calendar

Markit publishes an index calculation calendar which is available at <http://www.markit.com/Documentation/Product/iBoxx>. This calendar provides an overview of the index calculation dates of the Markit iBoxx bond index families in a given year.

5.11 Data publication and access

The table below summarises the publication of ALBI data on the Markit website <http://indices.markit.com/> and on the FTP server.

Daily Files	Access
— Underlying file – Bond level	Markit FTP Server
— Indices files – Index level	Markit FTP Server/ Markit website/ Bloomberg for index levels only
— Some customized index files	
Weekly Files	
— Previews_components	Markit FTP Server/ Markit website
Monthly files	
— End of Month Components	Markit FTP Server/ Markit website
— XREF files	Markit FTP Server

Markit iBoxx indices are also published through a number information service providers including Bloomberg and Thomson Reuters. Please contact iBoxx@markit.com for a list of current service providers that carry the iBoxx ADBI.

The Bloomberg ticker and Reuters RIC code for the main iBoxx ADBI indices are:

ISIN	Markit index name	Total Return Index		Price Index	
		BBG Ticker	RIC Code	BBG Ticker	RIC Code
GB00BYZW8M61	Markit iBoxx ALBI (USD Unhedged)	IBXXALBI	.IBXXALBI	IBXXALBC	.IBXXALBC
GB00BYZW7B81	Markit iBoxx ALBI China Onshore	IBXXCNYT	.IBXXCNYT	IBXXCNYP	.IBXXCNYP
GB00BYZW7416	Markit iBoxx ALBI China Offshore	IBXXCNHT	.IBXXCNHT	IBXXCNHP	.IBXXCNHP
GB00BYZW7C98	Markit iBoxx ALBI Hong Kong	IBXXHKBI	.IBXXHKBI	IBXXHKBC	.IBXXHKBC
GB00BYZW7Z26	Markit iBoxx ALBI India	IBXXINTR	.IBXXINTR	IBXXINCP	.IBXXINCP
GB00BYZW7Y19	Markit iBoxx ALBI Indonesia	IBXXIDTR	.IBXXIDTR	IBXXIDCP	.IBXXIDCP
GB00BYZW8042	Markit iBoxx ALBI South Korea	IBXXKRTR	.IBXXKRTR	IBXXKRCP	.IBXXKRCP
GB00BYZW8158	Markit iBoxx ALBI Malaysia	IBXXMYTR	.IBXXMYTR	IBXXMYCP	.IBXXMYCP
GB00BYZW8604	Markit iBoxx ALBI Philippines	IBXXPHTR	.IBXXPHTR	IBXXPHCP	.IBXXPHCP
GB00BYZW8B56	Markit iBoxx ALBI Philippines Liquid	IBXXCHOF	.IBXXCHOF	IBXXCHMS	.IBXXCHMS
GB00BYZW8C63	Markit iBoxx ALBI Philippines Money Market	IBXXCHOG	.IBXXCHOG	IBXXCHMT	.IBXXCHMT
GB00BYZW8D70	Markit iBoxx ALBI Singapore	IBXXSGXR	.IBXXSGXR	IBXXSGXP	.IBXXSGXP
GB00BYZW8J33	Markit iBoxx ALBI Taiwan	IBXXTWTR	.IBXXTWTR	IBXXTWCP	.IBXXTWCP
GB00BYZW8H19	Markit iBoxx ALBI Thailand	IBXXTHTR	.IBXXTHTR	IBXXTHCP	.IBXXTHCP

5.12 Index restatement

Index restatement follows the policy described in the *Index restatement policy* document, available on the Methodology page of <http://www.markit.com/Documentation/Product/iBoxx>.

5.13 Index review

The rules for the index are reviewed once per year during the annual index review to ensure that the index provides a balanced representation of the local currency debt markets of the 11 economies covered by the indices. Decisions made following the annual index review will be published on Markit's website shortly after the relevant committee meetings have been held. The publication will contain a detailed overview and timelines for implementation of the rules changes.

6 Further information

— Glossary of key terms is available in the *Glossary* document, available on the Methodology page of <http://www.markit.com/Documentation/Product/iBoxx>.

— For contractual or content issues please refer to

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