



IHS Markit™

Markit iBoxx USD Liquid High Yield Index Guide

July 2017

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1. Changes to the Index

21 Jul 2017	Launch of the Markit iBoxx USD Liquid High Yield High Low Beta Indices
15 Mar 2016	Index rebalancing chapter 4.2
21 Dec 2015	Clarification of Bond pricing cut-off time in chapter 4.4
27 Aug 2015	Clarification of Issue Amount Outstanding for exchanged bonds in chapter 3.4.1
01 Feb 2015	Defaulted or Flat Trading bonds treatment added in Chapter 3.2
01 Oct 2014	Index restatement, complaints sections added. Additional clarifications on bond eligibility, classification and corporate actions.
31 Mar 2014	Clarification of perpetual bonds eligibility in chapter 3.1. Clarification of the issuer amount outstanding rule in chapter 3.4.2 Clarification of sector classification in chapter 3.5.5
31 Mar 2013	Markit iBoxx USD Liquid High Yield Indices will be based on the pricing methodology described in the document 'Markit iBoxx Pricing Rules'
31 Aug 2012	Exclusion of bonds where the issuer is not incorporated in the list of developed countries (3.5.3 Issuer Country)
30 Apr 2012	Extension of the Markit iBoxx USD Liquid High Yield Index (Appendix II)
30 Jun 2009	Extension of the Markit iBoxx USD Liquid High Yield Index (Appendix I)
29 Feb 2008	Addition of new rule concerning exchange of bonds from same issuer
01 Nov 2006	Launch of Markit iBoxx USD Liquid High Yield Index

2. Markit iBoxx USD Liquid High Yield Index

The Markit iBoxx USD Liquid High Yield Index is designed to reflect the performance of USD denominated high yield corporate debt. The index rules aim to offer a broad coverage of the USD high yield liquid bond universe. The indices are an integral part of the global Markit iBoxx index families, which provide the marketplace with accurate and objective indices by which to assess the performance of bond markets and investments. The index is market-value weighted with an issuer cap of 3%.

The Markit iBoxx USD Liquid High Yield Index is rebalanced once a month at the month-end (the “rebalancing date”) and consists of sub-investment grade USD denominated bonds issued by corporate issuers from developed countries and rated by at least one of three rating services: Fitch Ratings, Moody’s Investors Service, or S&P Global Ratings.

The bonds in the Markit iBoxx USD Liquid High Yield Index must meet all the criteria described below as of the close of business three business days prior to the rebalancing date provided that the relevant bond data can be verified, at Markit Indices Limited’s sole discretion, as of such date (“bond selection cut-off date”). The new index composition becomes effective on the first business day of the next month (the “composition month”).

All iBoxx indices are priced based on multiple data inputs. The Markit iBoxx USD Liquid High Yield index follows the pricing methodology as described in the document Markit iBoxx Pricing Rules publicly available under Methodology on www.markit.com/Documentation/Product/iBoxx. Additionally, the index rules and their application are governed by two Index Advisory Committees.

Additionally, the index rules and their application will be governed by two Index Advisory Committees:

- Technical Committee: consists of representatives from market makers / banks and meets on a monthly basis in order to provide feedback and information into the monthly rebalancing process and to monitor any market developments.
- Oversight Committee: consists of representatives from mostly the buy side and meets in order to discuss the decisions of the Technical Committee, the wider index rules and any market developments which may warrant rule changes.

This document covers the index selection rules and calculation methodology.

2.1. Index governance

In order to ensure the independence and the objectivity of the Markit iBoxx USD Liquid High Yield Index, the index rules and their enforcement will be governed by two distinct Index Advisory Committees, in line with the governance structure for the main Markit iBoxx index families.

2.1.1. Technical Committee

The Technical Committee is composed of representatives from market makers/banks. The main purpose of this group is to provide assistance in the identification of eligible constituents, especially in the instance where the eligibility or the classification of a bond is unclear or contentious. Additionally, the technical committee discusses any market developments which may warrant index rule changes, and provide recommendations on changes to the rules or additional indices. It also reviews the impact of financial sanctions on the eligibility of countries or specific index constituents. The technical committee meets once a month.

2.1.2. Oversight Committee

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 the Technical Committee and also to provide consultation on any market developments which may warrant rule changes.

2.2. Publication of the Indices

All indices are calculated as end-of-day and distributed once daily. The indices are calculated every day except on common U.S. bank holidays. 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 www.markit.com/indices under Calendar for data subscribers. Index data and bond price information is also available from the main information vendors.

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

3. Selection Criteria

The following selection criteria are applied to select the constituents for the Markit iBoxx USD Liquid High Yield Index:

- Bond Type
- Credit Rating
- Time to Maturity
- Amount Outstanding
- Classification
- Lockout Period
- Minimum Run

3.1. Bond type

Only fixed-rate bonds whose cash flow can be determined in advance are eligible for the indices. The indices are comprised solely of bonds. T-Bills and other money market instruments are not eligible. The Markit iBoxx USD Liquid High Yield Index include only USD denominated bonds.

In particular, bonds with the following characteristics are included:

- Fixed coupon bonds
- Step-up bonds with coupon schedules known at issuance (or as functions of the issuer's rating)
- Sinking funds and amortizing bonds
- Medium term notes ("MTNs")
- Rule 144A offerings
- Callable bonds
- Puttable bonds

The following instrument bond types are specifically excluded from the indices:

- Preferred shares
- Optionally and mandatory convertible bonds
- Subordinated bank or insurance debt with mandatory contingent conversion features or with any conversion options before the first call date is ineligible for the index
- Bonds with other equity features attached (e.g., options/warrants)
- Private placements. The list of private placements is updated every month and published on www.markit.com/indices under *Indices News*. Partial private placements where information on the specific amounts publicly placed and privately placed can be ascertained are included in the indices with the amount publicly placed. If the amount publicly placed is below the cut-off, the bond is not included in the indices.
- Perpetual bonds (unless callable with eligible expected remaining life as per chapter 3.3)

- Floating rate notes
- Pay-in kind bonds (during the pay-in-kind period)
- Zero coupon bonds
- Zero step-ups (GAINS)
- Bonds with differences between accrual and coupon payment periods and monthly-paying bonds.
- Regulation S offerings

For private placements, publicly available information is not always conclusive and the classification of a bond as 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 private placements. Any bond classified as private placement is added to the list of excluded private placements. The list is published on www.markit.com/indices under *Indices News* for future reference and to ensure decision's consistency.

In instances where a new bond type is not specifically excluded or included according to the published index rules, Markit will analyse the features of such securities in line with the principles set out in 3.1 of this guide. 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.

3.1.1. Tender Offers and Calls

Any bond subject to a firm call or tender offer, with the exception of exchange offers, in the month immediately following the rebalancing date will be excluded from the index, provided that Markit is aware of such tender offer or call as of the Bond selection cut-off date.

3.2. Credit Rating

All bonds in the Markit iBoxx USD Liquid High Yield Index must have a Markit iBoxx Rating of sub-investment grade.

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.

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

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

Sub-investment grade is defined as BB+ or lower from Fitch or S&P and Ba1 or lower from Moody's, but not in default.

If a bond is rated by more than one of the above agencies, then the Markit 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.markit.com/Documentation/Product/iBoxx under Methodology and in the Appendix C.

Issues rated D by Fitch or S&P, or that have been subject to a default press release by Moody's cannot enter the index; those issues in the index that are subsequently downgraded to D by Fitch or S&P or are subject to a default press release by Moody's (as of the bond selection cut-off date) will be taken out of the index on the next rebalancing date.

In case of an ID change or exchange of a 144A version into a registered bond the ratings from the 144A bond are also used for the registered bond

3.2.1. Rating Stabilization Period

After a bond has migrated into high yield from investment grade status, it must retain that status for three months (the "stabilization period") before it can be included in the index

3.3. Time to Maturity

3.3.1. Expected Remaining Life

All bonds must have at the rebalancing day an expected remaining life:

- of at least one year, and
- all new insertions must have an expected remaining life of at least one year and 6 months.

The expected remaining life is expressed in years and calculated as follows:

- For plain vanilla bonds, the expected remaining life of the bond is its time to maturity, calculated as the number of days between the last calendar day of the current month and its maturity.
- For dated and undated callable hybrid capital bonds, the first call date is always assumed to be the expected redemption date. The expected remaining life is calculated as the number of days between the last calendar day of the month and the expected redemption date.
- For soft bullets, the expected remaining life of the bond is its time to the expected maturity and not to its final maturity date.

3.3.2. Expecting Remaining Life at Issuance

All bonds must have at issuance an expected remaining life of 15 years or less.

3.4. Amount outstanding

3.4.1. Issue Amount Outstanding

The outstanding face value of a bond must be greater than or equal to USD 400m as of the bond selection cut-off date. Partial buybacks or increases affect the outstanding face value of a prospective bond. Markit considers changes to the outstanding face value of a candidate bond as a result of partial

or full buybacks or increases, provided that Markit is aware of such changes as of the bond selection cut-off date. In the case of 144A securities that are registered as global securities, the remaining amount of the 144A version and the registered version are recombined if the bond is not exchanged in full if the remaining amount of the 144A version reduces the amount outstanding below the eligibility threshold.

3.4.2. Issuer Amount Outstanding

The outstanding face value of all non-convertible bonds denominated in USD from the issuer must be greater than or equal to USD 1bn as of the bond selection cut-off date.

3.5. 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, 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 classification is published on the FTP server and in the indices section on www.markit.com/indices for registered users for future reference and to ensure decision's consistency.

3.5.1. Denomination

Bonds must be denominated in USD.

3.5.2. Issuer

The bond must be corporate credit, i.e., debt instruments backed by corporate issuers that are not secured by specific assets. Debt issued by governments, sovereigns, quasi-sovereigns, and government-backed or guaranteed entities is excluded.

For the purposes of selecting candidates for the index, an "issuer" is defined by the Bloomberg ticker (i.e., all bonds sharing a ticker are attributed to the same issuer).

3.5.3. Issuer Country

Bonds from countries classified as developed markets based on the "Markit Global Economic Development Classification" are eligible for the index.

The issuer or, in the case of a finance subsidiary, the issuer's guarantor, must be domiciled, incorporated and the country of risk must be in the countries listed as developed markets in "Markit iBoxx Country Classifications".

The classification is available at: www.markit.com/Documentation/Product/iBoxx under Methodology -> Markit iBoxx Country Classifications

3.5.4. Inclusion and Exclusion of Countries

A new country is added to the index if it is classified as developed market based on the "Markit Global Economic Development Classification".

A country is no longer eligible for the index if it is classified as emerging market based on the "Markit Global Economic Development Classification". The "Markit Global Economic Development Classification" is updated once per year.

The results are published at the end of July. The inclusion/exclusion of a country becomes effective at the end of October.

3.5.5. Sector Classification

Each bond in the Markit iBoxx USD Liquid High Yield Index is assigned to one of the following sectors: Oil & Gas, Basic Materials, Industrials, Consumer Goods, Health Care, Consumer Services, Telecommunications, Technology, Utilities, Financials and Technology.

3.6. Lockout Period and Minimum Run

3.6.1. Lockout Period

A bond that drops out of the Markit iBoxx USD Liquid High Yield Index at the rebalancing day is excluded from re-entering the index for a three-month period.

The rule for the lockout period takes precedence over the other rules for the Markit iBoxx USD Liquid High Yield Index selection. A locked out bond will not be selected, even if it qualifies for the index.

3.6.2. Minimum Run

Any bond that enters the Markit iBoxx USD Liquid HY Index must remain in the index for a minimum of six months provided it is not upgraded to investment grade, defaulted or fully redeemed in that period.

4. Index Calculation

4.1. Bond prices

For more details please refer to the Markit iBoxx Pricing Rules document, available in the Methodology section of the Markit iBoxx Documentation page on www.markit.com/Documentation/Product/IBoxx.

4.2. Rebalancing Process

The index is rebalanced monthly on the last business day of the month. Any inclusion after the index cut-off day (t-3) will not be considered in the re-balancing process, but will become effective at the end of the following month. New bonds issued are taken into account if they are publicly known to settle until the last calendar day of the month, inclusive, and if their rating and amount outstanding has become known at least three trading days before the end of the month.

Three preview lists of eligible bonds are published on ten (t-10), five (t-5), and three (t-3) trading days before end of the month.

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. The changes made on T-2 for rating and amount will not be considered for inclusion.

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.

4.2.1. Rebalancing Procedure

In a first step the selection criteria set out in chapter 3 are applied to the universe of USD denominated bonds.

- Bond ratings and amount outstanding are used as of the bond selection cut-off date
- Maturity dates remain fixed for the life of the bond
- Only bonds with a first settlement date on or before the rebalancing date are included in the selection process

4.3. Index Weights

Once the eligible bond universe has been defined, the weight for each bond is determined and if necessary capped, applying an issuer cap of 3%. The weights and capping factors are determined on the last business day of each month using the end-of-month market values.

4.4. Index Calculus

The components of the total return are price changes, accrued interest, coupon payments, and reinvestment income on cash flows received during the composition month.

$$TR_t = TR_{t-s} \frac{\sum_{i=1}^n \left(P_{i,t} + A_{i,t} + XD_{i,t-s} \cdot (CP_{i,t} + G_{i,t}) \right) \cdot N_{i,t-s} + CASH_{t-1} \cdot \left(1 + \frac{Y_{LIBID,t-1}}{360} \right)}{\sum_{i=1}^n \left(P_{i,t-s} + A_{i,t-s} + XD_{i,t-s} \cdot CP_{i,t-s} \right) \cdot N_{i,t-s}}$$

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

The index calculation is based on bond pricing provided by independent bond pricing services. The cut-off time for the bond pricing used in the index is 3 p.m. Eastern time.

4.5. 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 payin-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.

4.5.1. 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 $RPI_{i,t}$ 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 interest accrued until the redemption date is treated as an irregular coupon payment.

4.5.2. Bonds trading flat of accrued

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

Bonds will be considered trading flat of accrued in any of the following situations:

- default rating
- issuer has announced a failure to pay a coupon
- issuer has announced an intention not to make a payment on an upcoming coupon (grace period)

4.5.3. Multi-coupon bonds

Some bonds have pre-defined coupon changes that lead to a change in the annual coupon over the life of the bond. In all instances, the coupon change must be a fixed amount on top of a fixed coupon, i.e. floating coupon bonds are not eligible for the indices. The two main categories of bonds are step-up bonds and event-driven bonds.

- Step-up bonds: These are bonds with a pre-defined coupon schedule that cannot change during the life of the bond. The coupon schedule is used in all bond calculations.
- Event-driven bonds: These are bonds whose coupon may change upon occurrence (or non-occurrence) of pre-specified events, such as rating changes, e.g. rating-driven bonds, failure to register 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's 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 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.

4.6. Index History

The basis of the Markit iBoxx USD Liquid High Yield total return index is the closing value 136.37 of the GS \$ HYTop Total Return Index as of October 31st 2006. Launch date of the Markit iBoxx USD Liquid High Yield indices is November 1st 2006. Base date of the GS \$ HYTop Index is December 31, 1998 with a value of 100.

4.7. Settlement conventions

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

4.8. Calendar

Markit publishes an index calculation calendar in the Index Calendar section of the Markit iBoxx Documentation page on www.markit.com/Documentation/Product/iBoxx. This calendar provides an overview of the index calculation holidays of the Markit iBoxx bond index families in a given year.

4.9. Data Publication and Access

The indices are published on ftp:\\indices.markit.com, www.markit.com, Bloomberg, Reuters. Below is a summary of the IDs for each publication channel:

Index Name	ISIN	SEDOL	Bloomberg	RIC
Markit iBoxx USD Liquid High Yield Total Return Index	GB00B4K07738	B4K0773	IBOXHY	.IBLUS0004

4.10. Index restatement

Index restatement follows the policy described in the Markit iBoxx Index Restatement Policy document, available in the Methodology section of the Markit iBoxx Documentation page on www.markit.com/Documentation/Product/IBoxx.

4.11. Index Review

Index methodology reviews for the index in this guide are performed on a periodic basis. Any material changes to the methodology governing the indices are published on the Markit website.

5. Subindices

5.1. Markit iBoxx USD Liquid High Yield High/Low Beta Indices

The indices are designed to reflect the performance of the highest and lowest yielding sections of the USD denominated liquid sub-investment grade corporate bond market. The indices are distinct subsets of the Markit iBoxx USD Liquid High Yield index. The Markit iBoxx USD Liquid High Yield High Beta index includes the highest yielding half of securities from each sector of the Markit iBoxx USD Liquid High Yield index. Similarly, the Markit iBoxx USD Liquid High Yield Low Beta index includes the lowest yielding half of securities from each sector of the Markit iBoxx USD Liquid High Yield index. The separator between the highest and lowest yielding sections is the sector weighted median yield. The Markit iBoxx USD Liquid High Yield High/Low Beta indices are market value weighted, according to each bond's capped market value in the underlying Markit iBoxx USD Liquid High Yield index. All bonds in Markit iBoxx USD Liquid High Yield index are part of either the Markit iBoxx USD Liquid High Yield High Beta or the Markit iBoxx USD Liquid High Yield Low Beta index at any point in time.

The detailed rules for bond selection are described below:

1. Rank all bonds in each sector of Markit iBoxx USD Liquid High Yield Index in descending order based on the bid value of the annual yield. Additional ranking criteria by coupon (descending), notional value (descending) and ISIN (alphabetically) are employed to differentiate between bonds with identical yields.
2. Calculate sector weights based on the components of each ranked sector.
3. Calculate the 40th and 60th weighted percentiles for each ranked sector.
4. The weighted median is calculated as the bond with the smallest absolute distance :

$$\min(ABS(0.5 - \sum_i w_i))$$

where w_i is the cumulative weight of bonds 1 to i in each ranked sector.

Bonds are assigned to either Markit iBoxx USD Liquid High Yield High Beta or Markit iBoxx USD Liquid High Yield Low Beta index based on the following scenarios:

a) Bonds with a bid yield greater or equal to the bid yield of the weighted median bond are assigned to the Markit iBoxx USD Liquid High Yield High Beta index as long as they meet the following conditions:

- the bond is new to the Markit iBoxx USD Liquid High Yield index or
- the bond was part of the Markit iBoxx USD Liquid High Yield High Beta index in the previous month or
- the ask yield of the bond is greater or equal to the bid yield of the 40th weighted percentile

b) Bonds with a bid yield lower than the bid yield of the weighted median bond are assigned to the Markit iBoxx USD Liquid High Yield Low Beta index as long as they meet the following conditions:

- the bond is new to the Markit iBoxx USD Liquid High Yield index or

- the bond was part of the Markit iBoxx USD Liquid High Yield Low Beta Index in the previous month or
- the bid yield of the bond exceeds the bid yield of the 60th weighted percentile by at least the spread between the ask and bid yield of the bond:

$$Yield_{bid,bond} + (Yield_{bid,bond} - Yield_{ask,bond}) \geq Yield_{bid,60^{th}percentile}$$

The annual yield used in ranking is calculated as a 5 business day average up to (and including) day t-3. If yield data is available for less than 5 business day, the average measure is calculated based on the available number of days, up to t-3).

The security/sector weights are based on the weights of the securities within Markit iBoxx USD Liquid High Yield index.

The indices are published on ftp:\\indices.markit.com, www.markit.com, Bloomberg, Reuters. Below is a summary of the IDs for each publication channel:

Index Name	ISIN	SEDOL	Bloomberg	RIC
Markit iBoxx USD Liquid High Yield High Beta Total Return Index	GB00BF83DQ20	BF83DQ2	IBXXHB11	.IBXXHB11
Markit iBoxx USD Liquid High Yield Low Beta Total Return Index	GB00BF83DS44	BF83DS4	IBXXLB11	.IBXXLB11
Markit iBoxx USD Liquid High Yield High Beta Clean Price Index	GB00BF83DR37	BF83DR3	IBXXHB12	.IBXXHB12
Markit iBoxx USD Liquid High Yield Low Beta Clean Price Index	GB00BF83DT50	BF83DT5	IBXXLB12	.IBXXLB12

6. Further Information

Glossary of key terms

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

For contractual or content issues please contact:

Markit Indices Limited	Tel: +49 (0) 69 299 868 100
Friedrich-Ebert-Anlage 35-37	Fax: +49 (0) 69 299 868 149
60327 Frankfurt am Main	E-mail: iBoxx@markit.com
Germany	Web: www.markit.com/Product/iBoxx

For technical issues and client support:

E-mail:	iBoxx@markit.com		
Phone:	Asia Pacific	Japan:	+81 3 6402 0127
		Singapore:	+65 6922 4210
	Europe	General:	+800 6275 4800
		UK:	+44 20 7260 2111
	USA	General:	+1 877 762 7548

Formal complaints

Formal complaints can be sent electronically to our dedicated e-mail address complaints_indices@markit.com.

For any general index enquiries, please contact Markit iBoxx indices support group at iBoxx@markit.com.

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Ownership

Markit Indices Limited is a wholly-owned subsidiary of Markit Group.

Other index products

Markit Indices Limited owns, manages, compiles and publishes the iTraxx credit derivative indices and the iBoxxFX Trade Weighted Indices.

A. Appendix I: 2009 Changes Between 50 Bond HY index and the Unrestricted Index

On June 30th 2009 Markit made significant changes to the original set of index rules to broaden the set of instruments qualifying for the index. Below is a summary of the rule changes between the Markit iBoxx USD Liquid High Yield Index before 30 June 2009 and after 30 June 2009.

A.1. Issuer and Issue Amount Outstanding

Before 30 June 2009	After 30 June 2009
The outstanding face value of a bond must be greater than or equal to USD 200m as of the Bond selection cut-off date.	The issuer needs to have at least USD 1bn outstanding face value of bonds as of the Bond Cut-off Date. The outstanding face value of a bond must be greater than or equal to USD 400m as of the Bond Cut-off Date.

A.2. Weighting and Capping

Before 30 June 2009	After 30 June 2009
The Markit iBoxx USD Liquid High Yield Index attributes the same price-weight to each bond (assuming equal quantity of each bond).	The Markit iBoxx USD Liquid High Yield Index is market-value weighted. An issuer cap is calculated on the last business day of each month using the end-of-month closing prices for each bond. The capping factor for each issuer is 3% .

A.3. Rebalancing Timeline

Before 30 June 2009	After 30 June 2009
The Bond selection cut-off date will be three business day before the rebalancing date, which is two business days prior to the last business day of the month.	The Bond selection cut-off date will be four business day before the rebalancing date, which is three business days prior to the last business day of the month.
Bond ratings and amounts outstanding are used as of three business days before the rebalancing date, which is two business days prior to the last business day of the month.	Bond ratings and amounts outstanding are used as of four business days before the rebalancing date, which is three business days prior to the last business day of the month.
Only bonds with a first settlement date on or before the rebalancing date are included in the selection process	Only bonds with a first settlement date on or before four business days before the rebalancing date are included in the selection process

A.4. Ratings

Before 30 June 2009	After 30 June 2009
The highest rating determines the index rating.	The average rating determines the index rating

B. Appendix II: Additional Changes to the Index effective from April 30th, 2012

On April 30th, 2012 Markit started to apply the rules described in chapter 3 above. Below is a summary of the main rule changes of the Markit iBoxx USD Liquid High Yield Index before April 30th, 2012 and after April 30th, 2012.

B.1. Age

Before April 30th, 2012	After April 30th, 2012
As of a rebalancing date, bonds must be less than five years old.	No restrictions.

B.2. Credit Rating

Before April 30th, 2012	After April 30th, 2012
<p>Bonds must be rated below investment grade – but not in default – at BB+ or lower by S&P or Fitch or Ba1 or lower by Moody's as of the Bond selection cut-off date to qualify. The average rating determines the index rating.</p> <p>Split-rated (e.g., Baa3/BB+ or Ba1/BBB) issues are excluded from the index. A split-rated issue means that an issue is rated investment grade by one rating agency and non-investment grade by another rating agency.</p>	<p>All bonds in the Markit iBoxx USD Liquid High Yield Index must have a Markit iBoxx Rating of sub-investment grade. Ratings from the following three credit rating agencies are considered for the calculation of the Markit iBoxx Rating:</p> <ul style="list-style-type: none"> ● Fitch Ratings ● Moody's Investor Service ● S&P Global Ratings <p>Sub-investment grade is defined as BB+ or lower from Fitch and S&P and Ba1 or lower from Moody's, but not in default.</p> <p>If a bond is rated by more than one of the above agencies, then the Markit iBoxx rating is the average of the provided ratings. The rating is consolidated to the nearest rating grade. Rating notches are not used.</p>
<p>Issues rated D by S&P or Fitch, or that have been subject to a default press release by Moody's cannot enter the index; those issues in the index that are subsequently downgraded to D by Fitch or S&P or subject to a default press release by Moody's (as of the Bond selection cut-off date) will be taken out of the index on the next rebalancing date.</p>	<p>Issues rated D by Fitch or S&P, or that have been subject to a default press release by Moody's cannot enter the index; those issues in the index that are subsequently downgraded to D by Fitch or S&P or subject to a default press release by Moody's (as of the Bond selection cut-off date) will be taken out of the index on the next rebalancing date.</p>
<p>After a bond has migrated into high yield from investment grade status, it must retain that status for three months (the "stabilization period") before it can be included in the index</p>	<p>After a bond has migrated into high yield from investment grade status, it must retain that status for three months (the "stabilization period") before it can be included in the index</p>

B.3. Bond Type

Before April 30th, 2012	After April 30th, 2012
Fixed coupon bonds, step-up bonds with coupon schedules known at issuance (or as functions of the issuer's rating), bonds with sinking funds, medium term notes ("MTNs"), Rule 144A offerings, callable bonds are candidates for inclusion.	Fixed coupon bonds, step-up bonds with coupon schedules known at issuance (or as functions of the issuer's rating), bonds with sinking funds, medium term notes ("MTNs"), Rule 144A offerings, callable and putable bonds are candidates for inclusion.
The following instruments are excluded from the index: preferred shares, convertible bonds, bonds with other equity features attached (e.g., options/warrants), perpetual bonds, floating rate notes, pay-in kind bonds, putables, US dollar denominated bonds for foreign corporate issuers (i.e., Yankee bonds) , zero coupon bonds and zero step-ups (GAINS) and Reg S offerings.	The following instruments are excluded from the index: preferred shares, convertible bonds, bonds with other equity features attached (e.g., options/warrants), perpetual bonds, floating rate notes, pay-in kind bonds (during the pay-in-kind period), zero coupon bonds, zero step-ups (GAINS) and Reg S offerings.

B.4. First Settlement Date

Before April 30th, 2012	After April 30th, 2012
New issues must have a first settlement date on or before the Bond selection cut-off date to be included in the index for the next period.	New issues must have a first settlement date on or before the Rebalancing Date to be included in the index for the next period.

B.5. Inclusion and Exclusion of Countries

Before April 30th, 2012	After April 30th, 2012
NA	<p>A new country is added to the index if it is classified as developed market based on the "Markit Global Economic Development Classification".</p> <p>A country is no longer eligible for the index if it is classified as emerging market based on the "Markit Global Economic Development Classification". The "Markit Global Economic Development Classification" is updated once per year.</p> <p>The results are published at the end of July.</p> <p>The inclusion/exclusion of a country becomes effective at the end of October.</p>

B.6. Issuer Country

Before April 30th, 2012	After April 30th, 2012
The issuer or, in the case of a finance subsidiary, the issuer's guarantor, must be domiciled in the US, Bermuda, Cayman Islands, Canada, Japan or Western Europe.	<p>Bonds from countries classified as developed markets based on the "Markit Global Economic Development Classification" are eligible for the index.</p> <p>As of March 2012 the issuer or, in the case of a finance subsidiary, the issuer's guarantor, must be domiciled and the country of risk must be in Andorra, Australia, Austria, Belgium, Bermuda, Canada, Cayman Islands, Cyprus, Denmark, Faeroe Islands, Finland, France, Germany, Gibraltar, Greece, Hong Kong, Iceland, Ireland, Italy, Japan, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Spain, Sweden, Switzerland, U.S., United Kingdom.</p>

B.7. Time to Maturity

Before April 30th, 2012	After April 30th, 2012
To qualify for the Markit iBoxx USD Liquid High Yield Index bonds must have at least three years and six months remaining time to maturity when joining the index.	To qualify for the Markit iBoxx USD Liquid High Yield Index a bond must have at least one year and six months remaining time to maturity as of the rebalancing day.
Bonds in the index with maturities less than three years will be excluded from the indices at the next rebalancing.	Bonds in the index with maturities less than one year will be excluded from the indices at the next rebalancing.
As of the rebalancing day the time to maturity of the bonds should be less than 15 years.	Bonds with a time to maturity of 15 years or less as of the bonds issuance day are eligible for the index.

C. Markit iBoxx Average Rating Methodology

All bonds in the Index must have a Markit iBoxx Rating. Ratings from the following three credit rating agencies are considered for the calculation of the Markit iBoxx Rating:

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

The average rating of Fitch Ratings, Moody's Investors Service and S&P Global Ratings determines the index rating. The rating is consolidated to the nearest rating grade. Rating notches are not used. Each rating is assigned a number as follows:

Fitch	Moody's	S&P	Score	iBoxx
AAA	Aaa	AAA	1	AAA
AA+	Aa1	AA+	2	AA
AA	Aa2	AA	3	AA
AA-	Aa3	AA-	4	AA
A+	A1	A+	5	A
A	A2	A	6	A
A-	A3	A-	7	A
BBB+	Baa1	BBB+	8	BBB
BBB	Baa2	BBB	9	BBB
BBB-	Baa3	BBB-	10	BBB
BB+	Ba1	BB+	11	BB
BB	Ba2	BB	12	BB
BB-	Ba3	BB-	13	BB
B+	B1	B+	14	B
B	B2	B	15	B
B-	B3	B-	16	B
CCC+	Caa1	CCC+	17	CCC
CCC	Caa2	CCC	18	CCC
CCC-	Caa3	CCC-	19	CCC
CC	Ca	CC	20	CC
C	C	C	21	C
D/RD		D	22	D

Where more than one rating is available, scores will be added and the sum divided by the number of ratings. A non-integer result will be rounded to the nearest integer. E.g. 4.33 is rounded down to 4, while 4.5 is rounded to 5. The resulting number is converted to the iBoxx index rating (iBoxx only publishes rating grades without notches) as shown in the table above.

D. Annotations

$A_{i,t}$	Accrued interest of bond i at calculation day t
$A_{i,t-s}$	Accrued interest of bond i on the previous rebalancing day t-s
$CASH_{t-1}$	Cash at the previous business day
$CP_{i,t}$	Value of the next coupon payment of bond i during an ex-dividend period. Outside the ex-dividend period, this value is 0
$CP_{i,t-s}$	Value of the next coupon payment of bond i (at the previous rebalancing day) during an ex-dividend period. Outside the ex-dividend period this value is 0
$G_{i,t}$	Value of any coupon payment received from bond i at time t. If none the value is 0
$N_{i,t-s}$	Amount outstanding of bond i at the previous rebalancing day t-s
$P_{i,t}$	Clean price of bond i at time t
$P_{i,t-s}$	Closing price of bond i on the last business day on or before the previous rebalancing day
TR_t	Total return index level at time t
TR_{t-s}	Closing total return index level on the previous rebalancing day
$XD_{i,t-s}$	The value is 0, if the bond enters the index at the ex-dividend period. The value is 1, if (a) coupon payments are not ex-dividend, (b) has not entered the index during an ex-dividend period, or (c) entered the index during a previous ex-dividend period
$Y_{LIBID,t-1}$	Overnight interest rate for cash

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