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**Markit iBoxx Trepp CMBS
Liquid Index Guide**

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Changes to the Markit iBoxx Trepp CMBS Liquid Index family

2015	Launch of Markit iBoxx Trepp CMBS Liquid Index Family
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1 Markit iBoxx Trepp CMBS Liquid Index

The Markit iBoxx Trepp CMBS Liquid Index is designed to reflect the performance of USD denominated commercial mortgage backed securities which are rated as AAA at issuance and maintain a current rating of A or higher. The index rules aim to cover the investable and liquid USD CMBS universe, which is an integral part of the Markit iBoxx Trepp CMBS Benchmark Index. As of 31 October 2014, the Liquid Index tracks around 120 bonds with current notional of approximately USD 78 billion.

All iBoxx CMBS indices static and pricing data are provided by Trepp, LLC.

This document covers the index rules and calculation methodology.

1.1 Publication of the Markit iBoxx Trepp CMBS Indices

All indices are calculated at the end of each business day and are re-balanced at the end of each month. The indices are calculated on the basis of end-of-day Trepp prices on each trading day defined in the iBoxx CMBS Index calculation calendar. The index calculation calendar is available in the indices section on the Markit website. Index data and bond price information are also available through other information vendors.

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

- The indices are calculated on each SIFMA recommended US trading day and on the last calendar day of each month.

Prices for all bonds are taken at 4pm EST. Following collection of prices, price consolidation and index analytics calculations take place. Index data is published and distributed approximately 2 hours after price delivery.

2 Bond Selection Rules

The following selection criteria are used to derive the index constituents for the Markit iBoxx Trepp CMBS Liquid universe:

- Market issue
- Deal type
- Bond type
- Country
- Deal notional
- Bond notional
- Rating
- Seniority
- Weighted Average Life
- Geographic Concentration
- Loan Concentration
- Deal Concentration
- Real Estate Type Concentration

2.1 Market Issue

For liquidity reasons, the following market types are excluded from the bond universe:

- Agency CMBS bonds
- Private placements

If Markit has reasonable cause to believe that a bond is a retail bond or private placement, and Markit is unable to determine otherwise from the issuer or lead manager(s), the classification of a bond as a retail bond or private placement will be made at Markit's discretion based on information available at the time of determination.

2.2 Deal Type

For liquidity reasons, only conduit deals are eligible. The following deal types are specially excluded:

- Large loan
- Single-borrower/Single-asset

2.3 Bond Type

General inclusion criteria:

- Pass-through CMBS bonds without pre-determined prepayment schedule are eligible for the indices

In particular, the following bond types are eligible:

- Fixed-rate bonds
- WAC/pass-through bonds

The following bond types are excluded:

- Bonds that have ever been floating-rate
- Planned Amortization Class (PAC) bonds
- Multifamily-directed bonds
- Interest-only (IO) bonds
- Principal-only (PO) bonds
- Modeling bonds
- Non-pooled single-asset bonds
- Accretion (Z) bonds
- Non-floater variable bonds, including PEZ, PEX, PST, EC tranches
- Bonds secured by underlying assets that are credit-linked notes, synthetic CDOs or any similar synthetic obligations

2.4 Country

All constituents should be bonds in US conduit deals and denominated in USD.

2.5 Deal Notional

All bonds in the Markit iBoxx Trepp CMBS Liquid Index must have a minimum deal notional of USD 500 million at issuance and a minimum outstanding deal notional of USD 300 million on the rebalancing day.

2.6 Bond Notional

All bonds in the Markit iBoxx Trepp CMBS Liquid index must have a minimum bond notional of USD 100 million at issuance and a minimum outstanding bond notional of USD 10 million on the rebalancing day.

2.7 Credit Rating

All bonds in the Markit iBoxx Trepp CMBS Liquid Index must have a Markit iBoxx Rating both at issuance and on the rebalancing day. Ratings from the following three credit rating agencies are considered for the calculation of the Markit iBoxx Rating:

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

All eligible bonds must have a Markit iBoxx Rating at issuance of AAA and a Markit iBoxx Rating on the rebalancing day of A or higher.

If a bond is rated by more than one of the above agencies, then the Markit iBoxx rating is average of the provided ratings. Rating notches are not used. Markit iBoxx Ratings are consolidated (e.g. BBB+, BBB and BBB- are consolidated to BBB; A+, A and A- are consolidated to A, etc.)

Only issue ratings are considered in the bond selection process. Issuer ratings are not taken into account.

2.8 Seniority

To be included in the Markit iBoxx Trepp CMBS Liquid Index, all bonds must be super senior classes in the deal.

Given the constraints on both credit rating and seniority, all bonds in the Index are ERISA eligible.

2.9 Weighted Average Life

All bonds must have a weighted average life of at least one year on the rebalancing day.

2.10 Geographic Concentration

The commercial properties that secure any bond in the Markit iBoxx Trepp CMBS Liquid Index must be sufficiently geographically diverse so that properties in one state in the United States do not represent more than forty percent (40%) of the aggregate value of the properties securing the CMBS Offering.

2.11 Loan Concentration

The loans that secure any bond in the Index must be sufficiently diverse so that the Top 10 loans do not represent more than fifty percent (50%) of the aggregate value of the loans securing the CMBS Offering.

2.12 Deal Concentration

To ensure the CMBS deals from which bonds are selected are sufficiently diverse, in each deal that satisfies all other eligibility rules, only one bond could be picked from each iBoxx current rating category (AAA, AA+, AA, AA-, A+, A, A-). If there is more than one eligible bond with the same rating in a deal, the tranche with the most credit enhancement (and among tranches with equal credit enhancement, the tranche which has the longest weighted average life; and among tranches with equal weighted average life, the tranche which has the largest original balance) should be selected.

2.13 Real Estate Type Concentration

No single real estate type (multi-family, office, etc) can represent more than sixty percent (60%) of the aggregate value of the properties securing the CMBS Offering.

Bonds secured by one hundred percent (100%) multi-family loans are excluded.

3 Bond Classification

All bonds are classified based on the major characteristics of the deal. In addition, a bond’s specific features are considered. Hence, it is possible that bonds from the same deal carry different classifications.

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.

The main sector classifications within the iBoxx CMBS index family are described below.

3.1 Overall Bond Classification Scheme

The following classification scheme is used for the bonds:

- Level 0 USD
- Level 1 D
- Level 2 Non-Treasuries
- Level 3 Collateralized
- Level 4 CMBS
- Level 5 Dominant/Diversified
 - Dominant: when the most concentrated real estate type in the deal is not lower than 50%
 - Level 6-8 Top 1 real estate type
 - Diversified: when the most concentrated real estate type in the deal is lower than 50%
 - Level 6-8 Top 3 real estate types which are higher than 10%

Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Retail	Retail	Retail Anchored
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Retail	Retail	Retail Unanchored
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Office	Office	*
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Residential	Multifamily	*
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Travel & Leisure	Hotel	Hotel Full
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Travel & Leisure	Hotel	Hotel Limited
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Travel & Leisure	Hotel	Hotel Other
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Health Care	Health Care	*
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Industrials	Industrials	*
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Speciality	Speciality	Credit Tenant Loan (CTL)
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Speciality	Speciality	Mobile Home
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Speciality	Speciality	Mixed Use
USD	D	Non-Treasuries	Collateralized	CMBS	Dominant	Speciality	Speciality	Others
USD	D	Non-Treasuries	Collateralized	CMBS	Diversified	Diversified	A combination of 2-3 sectors out of level 7 sectors under "Dominant"	*

The following seniority classification scheme is used for bonds:

Seniority Level 1	Seniority Level 2	Seniority Level 3 (sequence of payment)
SEN	Supersenior	1
	MezzSenior	2-18
	SubSenior	2-18

SUB

Subordinated

2-18

4 Index Calculation

4.1 Static Data

Information used in the Markit iBoxx Trepp CMBS Index calculations, including bond and deal static data and payment information, is sourced from Trepp, LLC.

4.2 Bond Prices

Bond price information used in the Markit iBoxx Trepp CMBS indices is sourced from Trepp, LLC. Ask prices are derived from Trepp, LLC, bid prices by applying a bid-ask spread provided by Markit's Pricing Data service.

4.3 Rebalancing Process

All Markit iBoxx Trepp CMBS indices are rebalanced monthly at the month-end ("rebalancing day"). Classifications are determined four business days before the end of the month. Except ratings, changes to bond reference data such as notional outstanding are only taken into account if they are publicly known three business days before the end of the month. Any changes after the index cut-off day (t-3) will not be considered in this re-balancing process, but will become effective at the end of the following month. Rating cut-off day for index membership is two business days before the end of the month (t-2). New bonds issued are taken into account if they are publicly known to close three business days before the last calendar day of the month, inclusive, and if their rating and amount outstanding has become known at least three business days before the end of the month.

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.

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

4.4 Index Data

Calculation occurs on a daily basis as soon as Trepp, LLC, prices are available. Price quotes are provided and the indices calculated every day in the SIFMA calendar and for the last calendar day of each month. Index calculation is based on bid quotes. New bonds are included in the indices at their respective ask prices when they enter the index family. In the event that no new quotes for a particular bond are received, the index will continue to be calculated based on the last available Trepp, LLC, prices. This might be the case in periods of market stress, or disruption as well as in illiquid or fragmented markets.

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.

4.5 Index Calculus

Cash received from interest payment, principal payment or prepayment will not be reinvested into the index until the end of month (next rebalancing day).

For specific index formulae please see the appendix in the Markit Trepp iBoxx CMBS Benchmark Index Guide.

4.6 Treatment of special intra-month events

4.6.1 Missing Prices and Analytics

There are several circumstances that some bonds may stop being priced for a few days by data providers. To avoid unnecessary turnover, for index membership, Markit iBoxx Trepp CMBS Benchmark Indices can use prices and analytics carried forward for at most seven business days. If a bond has been included in the index and does not have prices during the month, the latest price will be carried forward until the earlier of a) next rebalancing for index calculation b) when the bond resumes being priced. The bond will be excluded for index analytics calculations such as yield, spread and duration during the month.

4.6.2 Newly Issued Bonds

In normal cases, accrued interests and unrealized cash are calculated using the bond coupon rate at the last ex-dividend day. For newly issued bonds, the coupon rate at the last ex-dividend day is not available, so the first available coupon rate is used instead for the first accrual period.

4.6.3 Distressed Bonds

Distressed bonds are defined as bonds with bid prices lower than 10. Markit iBoxx Trepp CMBS Benchmark Indices do not include distressed bonds. If a constituent turns into distressed bond during the month, it will be excluded for index analytics calculations such as yield, spread and duration during the month and removed from the index on next rebalancing day.

Distressed bonds that satisfy all other criteria will enter a separate distressed bond index, which will not provide index analytics except price.

4.7 Index Weighting

Markit iBoxx Trepp CMBS Liquid Index is base-market-value weighed, with the bond's market value on the rebalancing day as the weighting factor. To ensure sufficient diversification, the Liquid Index weight is subject to a vintage cap of 30% and a shelf cap of 5%. The weight of a bond is only adjusted in the monthly re-balancing process at the end of each month.

4.8 Index History

The index history starts on 31 December 2006. All indices have a base value of 100 on that date.

4.9 Settlement Conventions

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

4.10 Calendar

Markit publishes an index calculation calendar which is available on the Markit website. This calendar provides an overview of the index calculation times of the Markit iBoxx bond index families in a given year.

4.11 Index Restatement

Index restatement follows the policy described in the *Index restatement policy* document, available on the Markit iBoxx Rules page on the Markit website in the Methodology Documentation section.

4.12 Index Review

Index methodology reviews for the indices outlined within this guide are performed on a periodic basis or when market developments occur that may warrant index rule changes. Any material changes to the methodology governing the indices are published on the Markit website.

4.13 Data Publication and Access

The table below summarises the publication of Markit iBoxx CMBS Benchmark Indices in the indices section of the Markit website and on the FTP server.

Daily Files	Access
<ul style="list-style-type: none"> Underlying file – Bond level Indices files – Index level 	Markit FTP Server Markit FTP Server/ Markit website/ Bloomberg for index levels only
Weekly Files	
<ul style="list-style-type: none"> Previews_components 	Markit FTP Server/ Markit website
Monthly files	
<ul style="list-style-type: none"> End of Month Components XREF files 	Markit FTP Server/ Markit website Markit FTP Server

4.14 Further Information

- Glossary of key terms is available in the Glossary document, available on www.markit.com
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- For contractual or content issues please refer to

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