

**S&P Dow Jones  
Indices**

A Division of **S&P Global**

**Markit iBoxx EUR Liquid  
Corporates Non Financials  
Interest Rate Hedged Index Guide  
*November 2022***

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# 1) Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index

The Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index aims to track the performance of a portfolio comprised of EUR-denominated investment grade corporate bonds while minimizing the effect of changes in market interest rates as represented by German government bond yields. The Index aims to achieve a zero duration by taking a long position in the Markit iBoxx EUR Liquid Corporates Non Financials Index (“Underlying Index”) and short positions in German government bond futures contracts. Duration herein refers to the sensitivity of bond prices to movements in interest rates.

The Underlying Index is a total return index designed to track the performance of a portfolio comprised of EUR-denominated investment grade corporate bonds.

The eligible contracts for the short position include: Euro-Schatz Futures, Euro-Bobl Futures and the Euro-Bund Futures.

The Index is rebalanced once a quarter at the month-end (the “rebalancing date”).

Additionally, Markit will seek the advice from the following committees:

- Technical Index Committee: consists of representatives from market makers/banks and meets on a monthly basis in order to arbitrate monthly rebalancing 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 index 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) Selection criteria for the Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index

The index has long positions in the Markit iBoxx EUR Liquid Corporates Non Financials Index and short positions in the Euro-Schatz, Euro-Bobl and Euro-Bund front month quarterly futures contracts.

### **Long Position**

Markit iBoxx EUR Liquid Corporates Non Financials Index is a total return index designed to track the performance of a portfolio comprised of EUR-denominated investment grade corporate bonds. Detailed methodology for the Markit iBoxx EUR Liquid Corporates Non Financials Index is available on [www.markit.com](http://www.markit.com).

### **Short Position**

The eligible front month contracts for the short position include the Euro-Schatz, Euro-Bobl and Euro-Bund futures. The contracts follow a quarterly cycle and expire in March, June, September and December.

The “Cheapest-To-Deliver” bonds (“CTD”) for each futures contract are determined at every rebalancing.

# 3) Index calculation

## 3.1) Bond and futures prices

The closing prices from Eurex are used for the futures.

For more details on the bond prices, please refer to the “Markit iBoxx Pricing Rules” document, available on the Markit iBoxx Rules page of [www.ihsmarkit.com](http://www.ihsmarkit.com) in the Methodology Documentation section on the right-hand side.

## 3.2) Index rebalancing

The Markit EUR Liquid Corporates Non Financials Interest Rate Hedged index is rebalanced monthly on the last business day of the month after the close of business.

The Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged index uses futures contracts to fully hedge the duration of the Underlying Index. The hedge positions are reset to achieve zero duration at each monthly rebalancing day.

The underlying non-hedged Markit iBoxx Liquid Corporates index rebalances its bond positions on a semi-annual basis. On the last business day of each month IHS Markit publishes the final membership for the Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged index after close of markets.

### Rebalancing procedure

At each rebalancing day the notional of each futures contract is determined using the following steps:

- Determine the Cheapest-To-Deliver bond (“CTD”) of each futures contract
- Associate each bond with futures contract based on the annual modified duration of the bonds
- Calculate the notional of each futures contract

## 3.3) Index data

The calculation of the index is based on bid prices. New securities are included in the index at their respective ask prices when they enter the index family. In the event that no price can be established for a particular security, the index continues to be calculated based on the last available price. This might be the case in periods of market stress, or disruption as well as in illiquid or fragmented markets. If the required inputs become impossible to obtain, IHS Markit may consult market participants prior to the next rebalancing date. Decisions are made publicly available on a timely basis and IHS Markit may refer back to previous cases.

The rebalancing takes place after close of market on the last trading day of a rebalancing month.

## 3.4) Determination of Cheapest-To-Deliver bond

The CTD bond is the least expensive bond that can be delivered upon expiry to satisfy the requirements of a futures contract.

The CTD bond is used as the proxy of a futures contract in determining the number of contracts required to fully hedge the index.

### 3.5) Underlying bond assignment

All bonds are associated with one of the futures contract as follows:

- Bonds from, but excluding, 0 years to and including 3 years' annual modified duration are hedged using the Euro-Schatz futures contract.
- Bonds from, but excluding, 3 years to and including 7 years' annual modified duration are hedged using the Euro-Bobl futures contract.
- Bonds with more than 7 years' annual modified duration are hedged using the Euro-Bund futures contract.

### 3.6) Calculation of the notional of the futures contracts

The notional of the  $j$ -th futures contract on the rebalancing day is calculated as below:

$$N_{j,t-s}^F = \frac{CF_j^{CTD}}{P_{j,t-s}^{CTD} MD_{j,t-s}^{CTD}} \sum_{i=1}^n \delta_{i,j,t-s} BMV_{i,t-s} MD_{i,t-s}$$

where:	
$N_{j,t-s}^F$	denotes the notional of the $j$ -th futures contract on the rebalancing day
$CF_j^{CTD}$	denotes the conversion factor of the $j$ -th CTD bond
$P_{j,t-s}^{CTD}$	denotes the price of the CTD of the $j$ -th futures contract on the rebalancing day
$MD_{j,t-s}^{CTD}$	denotes the annual modified duration of the $j$ -th CTD bond on the rebalancing day
$MD_{i,t-s}$	denotes the annual modified duration of the $i$ -th bond on the rebalancing day
$\delta_{i,j,t-s}$	is equal to 1 for bond $i$ , if the bond is assigned to the associated $j$ -th futures contract, otherwise 0
$i$	denotes the $i$ -th bond on rebalancing day
$j$	denotes the $j$ -th futures contract on rebalancing day

### 3.7) Weight of futures contracts

The weight of futures contract in the overall short position on rebalancing day  $t-s$  is calculated as below:

$$W_{j,t-s}^S = \frac{N_{j,t-s}^F}{\sum_{i=1}^n BMV_{i,t-s}}$$

where:	
$W_{j,t-s}^S$	denotes the weight of the $j$ -th futures contract in short position on the rebalancing day
$N_{j,t-s}^F$	denotes the notional of the $j$ -th futures contract on the rebalancing day
$i$	denotes the $i$ -th bond on rebalancing day
$j$	denotes the $j$ -th futures contract on rebalancing day

### 3.8) Index calculation

The Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index is calculated on every index business day.

The index level on index day  $t$  is:

$$IL_t = IL_{t-s} \cdot (1 - v_{t-s}^{roll} \cdot rollcost) \cdot \left( 1 + \left( \frac{IL_t^{long}}{IL_{t-s}^{long}} - 1 \right) - \sum_{j=1}^3 W_{j,t-s}^S \cdot (P_{j,t}^F - P_{j,t-s}^F) \right)$$

where:	
$IL_t$	denotes the index level on day
$IL_{t-s}$	denotes the index level on rebalancing day
$v_{t-s}^{roll}$	denotes the roll cost indicator. The indicator will be 1 if $t$ is the month following the roll date, otherwise 0
$IL_t^{long}$	denotes the index level of the long position on day
$IL_{t-s}^{long}$	denotes the index level of the long position on rebalancing day
$W_{j,t-s}^S$	denotes the weight of the $j$ - th futures contract in short position on the rebalancing day
$P_{j,t}^F$	denotes the price of the $j$ - th futures contract on day $t$
$P_{j,t-s}^F$	denotes the price of the $j$ - th futures on the rebalancing day
$rollcost$	denotes the actual rollcost; it is assumed to be 1bp

For specific index formulae please refer to *Markit iBoxx Bond Calculus* document, available on the Markit iBoxx Documentation page of [www.ihsmarkit.com](http://www.ihsmarkit.com) in the *Methodology* section.

### 3.9) Roll process

At the rebalancing day prior to the delivery month the futures contract is rolled into the new front month quarterly futures contract. The roll cost is assumed to be 1bp.

### **3.10) Monthly re-investment**

Cash from the long position and positive P/L from the short futures positions is reinvested in the Underlying Index. Negative P/L from the short futures positions is deducted from the long position.

### **3.11) Index history**

The Index history starts on 31 December 2004. The index has a base value of 100 on that date.

### **3.12) Settlement conventions**

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

### **3.13) Calendar**

IHS Markit publishes an index calculation calendar in the *iBoxx Calendars* section of the iBoxx Documentation page on [www.ihsmarkit.com](http://www.ihsmarkit.com). This calendar provides an overview of the index calculation holidays of the iBoxx bond index families in a given year.

### **3.14) Publication of the index**

All indices are calculated as end-of-day and distributed once daily after 5.15 p.m. CET. The Index is calculated every day on which the Underlying Index is published. In addition, all 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](http://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 bond closing prices and futures prices from Eurex from 5:15pm CET. Closing index values and key statistics are published at the end of each business day in the indices section on [www.markit.com/indices](http://www.markit.com/indices) for data subscribers.

### **3.15) Data publication and access**

The table below summarizes the publication of Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index in the *Indices* section of the IHS Markit website [www.ihsmarkit.com](http://www.ihsmarkit.com) for registered users and on the FTP server.

Table 1: Publication frequency, file types and access

Frequency	File Type	Access
Daily	Underlying file – Bond level	IHS Markit FTP Server
	Indices file – Index level	IHS Markit FTP Server / IHS Markit website / Bloomberg for index levels only
Daily from the 6th calendar day of the month (or the next index publication day if the 6th calendar day falls on a non-business day)	Forwards	IHS Markit FTP Server
Monthly	End of Month Components	IHS Markit FTP Server / IHS Markit website

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

Index Name	Return Type	SEDOL	ISIN	Ticker	RIC
Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index	TRi	BNZB0W0	GB00BNZB0W07	IBXXIRNF	.IBXXIRNF

### 3.16) Annual index review

The rules for the index are reviewed at least once per year during the public annual index review consultation process to ensure that the index provides a balanced representation of the EUR denominated debt market. Decisions made following feedback from market participants, the annual index review and External Advisory Committees (EAC) will be published on [www.ihsmarkit.com](http://www.ihsmarkit.com) shortly after the EAC meetings have been held. The publication will contain a detailed overview and timelines for implementation of any rules changes.

## 4) Governance and regulatory compliance

IHS Markit Benchmark Administration Limited (IMBA UK) is the Index Administrator of iBoxx indices. Information on IMBA UK's governance and compliance approach can be found [here](#). This document covers:

- Governance arrangements, including external committees
- Input data integrity
- Conflicts of interest management
- Market disruption and Force Majeure
- Methodology changes and cessations
- Complaints
- Errors and restatements
- Reporting of infringements and misconduct
- Methodology reviews
- Business continuity

More details about IMBA UK can be found on the [Administrator's website](#).

## 5) Changes to the Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Index

July 2014	<ul style="list-style-type: none"><li>• Launch of Markit iBoxx EUR Liquid Corporates Non Financials Interest Rate Hedged Indices</li></ul>

## 6) Further information

### Glossary of key terms

The Markit iBoxx Glossary document of key terms is available in the *Methodology* section of the iBoxx *Documentation* page on [www.ihsmarkit.com](http://www.ihsmarkit.com).

### Contractual and content issues

For contractual or content issues please contact:

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Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

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