S&P Dow Jones Indices

A Division of S&P Global

Markit iBoxx Contingent Convertible Index Guide

May 2023

Table of Contents

1) Markit iBoxx Contingent Convertible Indices

The Markit iBoxx Contingent Convertible (CoCo) Index family is designed to reflect the performance of contingent convertible debt issued by financial institutions and insurance companies. The index rules aim to offer a broad coverage of the CoCo bond universe, whilst upholding minimum standards of investibility and liquidity. The sub-indices are created to reflect a subdivision of the CoCo asset class into bonds with similar trading behavior, providing further transparency to this market and allowing easy bench marking. The indices form part of the global Markit iBoxx index families, which provide the marketplace with accurate and objective reference indices by which to assess the performance of bond markets and investments.

The Markit iBoxx CoCo Index family is split into three Benchmark Indices: EUR, USD and GBP. The USD Benchmark Index is further subdivided into Developed Markets (DM) and Emerging Markets (EM). For further subdivisions see Section 1.1. The sub-division of the Liquid Indices into Tier 2 (T2) and Additional Tier 1 (AT1) follows the classification of bank capital laid out in the Basel III principles and interpreted by the regional regulating bodies. The Indices separate AT1 from T2 bonds as their trading behavior is different: AT1 bonds are used to keep a bank going-concern, T2 bonds are used to protect depositors once a bank is gone-concern. Therefore AT1 bonds are expected to lose value before T2 bonds. Restricted Tier 1 capital (RT1) issued by insurance companies is captured in the RT1 classification.

All iBoxx indices are priced based on multiple data inputs. The Markit iBoxx CoCo Index family uses multi-source prices as described in the document *Markit iBoxx Pricing Rules*. The document can be found on the Markit iBoxx Rules page of www.ihsmarkit.com in the *Methodology* documentation section.

This document covers the index family structure, rules and calculation methodology.

1.1) Index family structure

The table below shows the Markit iBoxx Contingent Convertible Index family structure. Bonds are classified to conform to other standard iBoxx index families, such as the USD, EUR and GBP indices :

Table 1: The Markit iBoxx Contingent Convertible Indices

Markit iBoxx Contingent Convertible Family		
iBoxx EUR Contingent Convertible Benchmark	iBoxx USD Contingent Convertible Benchmark	iBoxx GBP Contingent Convertible Benchmark
• Developed Markets (DM) > Liquid AT1 > Liquid T2 • RT1	• Emerging Markets (EM) • Developed Markets (DM) > Liquid AT1 > Liquid T2 • RT1	• Developed Markets (DM) > Liquid AT1 > Liquid T2 • RT1

2) Bond selection rules

The following four selection criteria are used to derive the index constituents from the CoCo bond universe:

- Bond type
- Credit rating
- Time to maturity
- Amount outstanding

2.1) Bond type

The Index contains bonds that are contingent convertibles capital securities issued by banks and insurance companies. In order for a bond to be classified as contingent convertible, it must have an objective pre-specified trigger point.

Features of bonds included in the index are:

- Callable bonds
- Perpetual bonds
- Preferred shares

Bonds with the following features are specifically excluded:

- Private placements
- Bail-In bonds (Bonds with no objective specified trigger point)
- Non-subordinated debt
- 144 A bonds
- Amortizing bonds or sinking funds

For retail bonds and private placements, publicly available information is not always conclusive and the classification of a bond as a retail bond or a private placement will be made at IHS Markit's discretion based on the information available at the time of determination. IHS Markit may consult with the specific Index Advisory Committees to review potential retail bonds or private placements. Any bond classified as retail or private placement is added to the list of excluded private placements and retail bonds. The list is published on www.ihsmarkit.com under *Indices News* for future reference and to ensure decision's consistency.

In instances where a new bond type is not specifically excluded or included according to the published index rules, IHS Markit will analyse the features of such securities in line with the principles set out in 2.1 of this guide. IHS Markit may consult the specific Index Advisory Committees. Any decision as to the eligibility or ineligibility of a new bond type will be published and the index rules will be updated accordingly.

2.2) Credit rating

All bonds in the Markit iBoxx Contingent Convertible Indices must be rated by at least one of the three credit rating agencies:

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

If a bond is rated by more than one of the above agencies, then the iBoxx rating is the average of the provided ratings. The rating is consolidated to the nearest rating grade. Rating notches are not used. For more information on how the average rating is determined, please refer to the *iBoxx Rating Methodology* document. The methodology can be found on www.ihsmarkit.com under Methodology.

2.3) Time to maturity

All new insertions in the Markit iBoxx Contingent Convertible Indices must have a remaining time to maturity of at least one year at rebalancing. The time to maturity is calculated from the rebalancing date to the assumed workout date of the bond, by using the day count convention of the bond. Index constituents remain in the Index until maturity or until they are fully redeemed.

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

- For plain vanilla bonds, the expected workout date is the final maturity date
- For dated and undated callable financial hybrid capital bonds, the workout date is assumed to be the first call date
- For non-financial hybrid capital bonds with an interest rate reset, the workout date is assumed to be the first reset date
- For soft bullets, the expected workout date is determined using the first call date

2.4) Amount outstanding

All bonds require a specific minimum amount outstanding in order to be eligible for the indices, as shown below. The figures indicate minimum issue sizes.

Table 2: Amount outstanding and issuer amount outstanding by index and currency

Index Name	Amount outstanding	Currency	Issuer Amount Outstanding
Markit iBoxx EUR Contingent Convertible	150 million	EUR	
Markit iBoxx EUR Contingent Convertible Developed Market	150 million	EUR	
Markit iBoxx EUR Contingent Convertible Liquid Developed Market AT1	500 million	EUR	1 billion in LCY
Markit iBoxx EUR Contingent Convertible Liquid Developed Market T2	500 million	EUR	1 billion in LCY
Markit iBoxx USD Contingent Convertible	400 million	USD	
Markit iBoxx USD Contingent Convertible Developed Market	400 million	USD	
Markit iBoxx USD Contingent Convertible Emerging Market	400 million	USD	
Markit iBoxx USD Contingent Convertible Liquid Developed Market AT1	750 million	USD	1 billion in LCY

Index Name	Amount outstanding	Currency	Issuer Amount Outstanding
Markit iBoxx USD Contingent Convertible Liquid Developed Market T2	750 million	USD	1 billion in LCY
Markit iBoxx GBP Contingent Convertible	250 million	GBP	
Markit iBoxx GBP Contingent Convertible Developed Market	250 million	GBP	
Markit iBoxx GBP Contingent Convertible Liquid Developed Market AT1	400 million	GBP	1 billion in LCY
Markit iBoxx GBP Contingent Convertible Liquid Developed Market T2	400 million	GBP	1 billion in LCY
iBoxx EUR Contingent Convertible RT1	150 million	EUR	
iBoxx GBP Contingent Convertible RT1	250 million	GBP	
iBoxx USD Contingent Convertible RT1	400 million	USD	

2.5) Issue date

Only bonds issued after 1 January 2013 are eligible to be included in the index. This date corresponds with the beginning of the phase-in of the Basel III standards

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 S&P DJI, 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 S&P DJI's discretion. S&P DJI will assign the classification according to its evaluation of the business risk presented in the security prospectus and annual reports, if available. S&P DJI will also compare the classification to peers in the potential sectors and may consult with the Index Advisory Committees. Membership lists including classification are published on the FTP server and in the *Indices* section of products.markit.com for registered users.

3.1) Country classification

Bond classification into 'Emerging' and 'Developed' markets is done according to the document *Country classifications* published in the Methodology section of the iboxx Documentation page that can be found at www.ihsmarkit.com. Bonds are assigned to a market based on the country of risk of the issuer.

3.2) Additional classification

The liquid sub-indices will be split according to the position of the CoCo bond in the capital structure. The three capital types currently available are: Additional Tier 1 (AT1), Tier 2 (T2) and Restricted Tier (RT1) capital.

Subordinate bonds issued by banking institutions are further detailed into the respective tiers of subordination.

Table 3: Capital structure classification overview

Market Sector	Seniority Level 1	Seniority Level 2	Seniority Level 3
Banks	SUB	AT1	*
		T2	*
Insurance	SUB	RT1	*

4) Index calculation

4.1) Static data

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

4.2) Bond prices

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

4.3) Rebalancing process

The Markit iBoxx Contingent Convertible Indices are rebalanced monthly on the last business day of the month after the close of business. Any inclusion after the index cut-off day (t-3) will not be considered in the rebalancing process, but will become effective at the end of the following month.

New bonds issued are taken into account if they are publicly known to settle until the last calendar day of the month, inclusive, and if their rating and amount outstanding has become known at least three trading days before the end of the month.

A preview list (including sector classification for new bonds) is published each Friday with predicted changes to the index constituents at the next scheduled month-end rebalancing. The preview list includes the next month's index constituents and shows bonds joining or leaving the indices at the next rebalancing, based on information available on such Fridays.

The first weekly preview will be published on the Friday that is at least three business days after the preceding month-end rebalance.

A preliminary membership list is published on the 6th calendar day of the month (moved to the next business day in case of holiday/weekend).

Additionally two preview lists of eligible bonds are published on four (t-4) 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.

The final index membership list for the following month is published at the close of business two business days before the end of the month.

4.4) Index data

The calculation of the indices is based on bid prices. New securities 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 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.

A sub-index is calculated if at least one bond matches all inclusion criteria. If no bonds qualify for an index, then its level remains constant. If at least one bond becomes available again, the index calculation resumes and is chained to the last calculated level.All bonds are assigned to sub-indices according to their classification.

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

The indices are transaction cost adjusted. For specific cost factor calculation formulae please refer to the Markit iBoxx Bond Index Calculus document, available in the Methodology section of the Markit iBoxx Documentation page on www.ihsmarkit.com.

4.5) Index calculus

For specific index formulas please refer to the *Markit iBoxx Bond Index Calculus* document, available in the *Methodology* section of the iBoxx Documentation page on https://www.spglobal.com/spdji/en/.

4.6) 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, S&P DJI will estimate the approximate value based on the available data at the time of calculation.

4.6.1) Index and analytics weights

All Markit iBoxx Contingent Convertible Indices are market-value-weighted. The amount outstanding of a bond is only adjusted at the monthly rebalancing at the end of each month. However, scheduled redemptions, principal write-downs or conversions are taken into account from the date they occur, as they have a significant influence on index return and analytical values. In addition, bonds that are fully redeemed intra-month are also taken into account intra-month.

Definitions:

- *Principal write down bonds*: bonds whose face value is written down due to a capital event. Interest payments are made on the basis of the remaining value of the bond.
- *Conversion bonds:* bonds whose face value is converted to equity due to a capital event.
- *Fully redeemed bonds*: bonds that are fully called or completely repurchased prior to or at the calculation date.

4.6.2) Full redemptions: exercised calls, puts and buybacks

If a bond is fully redeemed intra-month, the bond effectively ceases to exist. In all calculations, the redeemed bond is treated as cash based on the last price, the call price or repurchase price, as applicable. The redemption factor, redemption and the redemption price are used to treat these events in the index and analytics calculation. In addition, the clean price of the bond is set to the redemption price, and the interest accrued until the redemption date is treated as an irregular coupon payment.

4.6.3) Coupon deferrals

If a bond defers coupons, it will remain in the Index. Analytics will be adjusted accordingly. If the issuer resumes paying coupon on an instrument, it will be reflected in the index.

4.6.4) Conversion

If a bond is converted to shares, it will leave the index on the next rebalancing date. The bond will be converted to cash on the conversion date at the respective closing share price and conversion factor. If either the conversion price or factor is not available on the conversion date we will use the available data to calculate a price to be updated once the final price or conversion value is available.

4.6.5) Write-down

Bonds will be written down in the index by adjusting their notional to reflect the amount written down. Provided that there is a write-up option, written down bonds will remain in the index unless the outstanding amount falls below the relevant cut-off threshold. If there is no write-up option and the outstanding amount falls below the relevant cut-off threshold, the bonds will leave the index on the next rebalancing date. If a bond has a write-up option and the outstanding amount is written up to above the relevant cut-off threshold, it may become eligible for the index again, subject to meeting the other inclusion criteria.

Due to the substantial impact that corporate actions may have on the index level, IHS Markit will on a best efforts basis try to obtain all information needed to reflect corporate actions within the indices.

4.7) Index history

The Index history starts on 31 December 2013. The indices have a base value of 100 on that date.

4.8) Settlement conventions

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

4.9) Calendar

S&P DJI publishes an index calculation calendar in the *iBoxx Calendars* section of the iBoxx Documentation page on https://www.spglobal.com/spdji/en/. This calendar provides an overview of the index calculation holidays of the iBoxx bond index families in a given year.

4.10) Publication of the Index

The Markit iBoxx Contingent Convertible Indices are calculated as end-of-day indices and distributed once daily after market close.

Bond and index analytical values are calculated end of day Monday to Friday using that day's closing prices. In addition, bond and index analytical values are calculated using the previous trading day's closing prices on the last calendar day of each month if that day is not a regular trading day as well as on common bank holidays as published in the iBoxx index calculation calendar. This index calculation calendar is available on www.ihsmarkit.com under *iBoxx Calendars*. Index data is also available from the main information vendors.

Closing index values and key statistics are published at the end of each calculation day in the *Indices* section on www.ihsmarkit.com for registered users.

4.11) Data publication and access

The table below summarizes the publication of Markit iBoxx Contingent Convertible Indices in the *Indices* section of the IHS Markit website www.ihsmarkit.com for registered users and on the FTP server.

Table 4: Data publication frequency, file types and access

Frequency	File Type	Access
Daily	Underlying file – Bond level	FTP Server
	Indices files – Index level	FTP Server / IHS Markit website / Bloomberg (index levels only)
6th calendar day of the month (moved to next business day in case of weekends)	Preview components	FTP Server / IHS Markit website
Weekly (On Friday)**	Preview components	FTP Server / IHS Markit website
T - 4	Preview components	FTP Server / IHS Markit website
T - 3	Preview components	FTP Server / IHS Markit website
Monthly	End of month components	FTP Server / IHS Markit website
	XREF files	FTP Server

**Previews will be published on the first Friday that is three business days after the previous month-end rebalance.

Below is a summary of the identifiers for each publication channel, including Bloomberg and Reuters:

Index Name	CCY	Return Type	ISIN	SEDOL	Bloomberg	RIC
Markit iBoxx EUR Contingent Convertible	EUR	TRI	GB00BQY77Z29	BQY77Z2	IBXXC2CO	.IBXXC2CO
Markit iBoxx EUR Contingent Convertible	EUR	CPI	GB00BQY78042	BQY7804	IBXXC2CP	.IBXXC2CP
Markit iBoxx EUR Contingent Convertible Developed Market	EUR	TRI	GB00BQY78158	BQY7815	IBXXC2DO	.IBXXC2DO
Markit iBoxx EUR Contingent Convertible Developed Market	EUR	CPI	GB00BQY78265	BQY7826	IBXXC2DP	.IBXXC2DP

Index Name	CCY	Return Type	ISIN	SEDOL	Bloomberg	RIC
Markit iBoxx EUR Contingent Convertible Liquid Developed Market AT1	EUR	TRI	GB00BQY78372	BQY7837	IBXXC2D1	.IBXXC2D1
Markit iBoxx EUR Contingent Convertible Liquid Developed Market AT1	EUR	CPI	GB00BQY78489	BQY7848	IBXXC2P1	.IBXXC2P1
Markit iBoxx EUR Contingent Convertible Liquid Developed Market T2	EUR	TRI	GB00BQY78596	BQY7859	IBXXC2D2	.IBXXC2D2
Markit iBoxx EUR Contingent Convertible Liquid Developed Market T2	EUR	CPI	GB00BQY78604	BQY7860	IBXXC2P2	.IBXXC2P2
Markit iBoxx USD Contingent Convertible	USD	TRI	GB00BQY78711	BQY7871	IBXXC1CO	.IBXXC1CO
Markit iBoxx USD Contingent Convertible (CoCo)	USD	CPI	GB00BQY78828	BQY7882	IBXXC1CP	.IBXXC1CP
Markit iBoxx USD Contingent Convertible Emerging Market	USD	TRI	GB00BQY78935	BQY7893	IBXXC1EO	.IBXXC1EO
Markit iBoxx USD Contingent Convertible Emerging Market	USD	CPI	GB00BQY78B59	BQY78B5	IBXXC1EP	.IBXXC1EP
Markit iBoxx USD Contingent Convertible Developed Market	USD	TRI	GB00BQY78C66	BQY78C6	IBXXC1DO	.IBXXC1DO
Markit iBoxx USD Contingent Convertible Developed Markets	USD	CPI	GB00BQY78D73	BQY78D7	IBXXC1DP	.IBXXC1DP
Markit iBoxx USD Contingent Convertible Liquid Developed Market AT1	USD	TRI	GB00BQY78F97	BQY78F9	IBXXC1D1	.IBXXC1D1
Markit iBoxx USD Contingent	USD	CPI	GB00BQY78G05	BQY78G0	IBXXC1P1	.IBXXC1P1

Index Name	CCY	Return Type	ISIN	SEDOL	Bloomberg	RIC
Convertible Liquid Developed Markets AT1						
Markit iBoxx USD Contingent Convertible Liquid Developed Markets T2	USD	TRI	GB00BQY78H12	BQY78H1	IBXXC1D2	.IBXXC1D2
Markit iBoxx USD Contingent Convertible Liquid Developed Markets T2	USD	CPI	GB00BQY78J36	BQY78J3	IBXXC1P2	.IBXXC1P2
Markit iBoxx GBP Contingent Convertible	GBP	TRI	GB00BQY78K41	BQY78K4	IBXXC3CO	.IBXXC3CO
Markit iBoxx GBP Contingent Convertible	GBP	CPI	GB00BQY78L57	BQY78L5	IBXXC3CP	.IBXXC3CP
Markit iBoxx GBP Contingent Convertible Developed Market	GBP	TRI	GB00BRTLBC18	BRTLBC1	IBXXC3DO	.IBXXC3DO
Markit iBoxx GBP Contingent Convertible Developed Market	GBP	CPI	GB00BRTLBD25	BRTLBD2	IBXXC3DP	.IBXXC3DP
Markit iBoxx GBP Contingent Convertible Liquid Developed Market AT1	GBP	TRI	GB00BRTLBF49	BRTLBF4	IBXXC3D1	.IBXXC3D1
Markit iBoxx GBP Contingent Convertible Liquid Developed Markets AT1	GBP	CPI	GB00BRTLBG55	BRTLBG5	IBXXC3P1	.IBXXC3P1
Markit iBoxx GBP Contingent Convertible Liquid Developed Market T2	GBP	TRI	GB00BRTLBH62	BRTLBH6	IBXXC3D2	.IBXXC3D2
Markit iBoxx GBP Contingent Convertible Liquid Developed Market T2	GBP	CPI	GB00BRTLBJ86	BRTLBJ8	IBXXC3P2	.IBXXC3P2
iBoxx EUR Contingent Convertible RT1	EUR	CPI	GB00BGFQB675	BGFQB67	IBXXRT11	.IBXXRT11

Index Name	CCY	Return Type	ISIN	SEDOL	Bloomberg	RIC
iBoxx EUR Contingent Convertible RT1	EUR	TRI	GB00BGFQB782	BGFQB78	IBXXRT12	.IBXXRT12
iBoxx GBP Contingent Convertible RT1	GBP	CPI	GB00BGFQB899	BGFQB89	IBXXRT13	.IBXXRT13
iBoxx GBP Contingent Convertible RT1	GBP	TRI	GB00BGFQB907	BGFQB90	IBXXRT14	.IBXXRT14
iBoxx USD Contingent Convertible RT1	USD	CPI	GB00BGFQBB21	BGFQBB2	IBXXRT15	.IBXXRT15
iBoxx USD Contingent Convertible RT1	USD	TRI	GB00BGFQBC38	BGFQBC3	IBXXRT16	.IBXXRT16

4.12) Index review

The rules for the Index are reviewed on a periodic basis during the public review and consultation process to ensure that the index provides a balanced representation of the respective debt market. Decisions made following feedback from market participants, the index review and External Advisory Committees (EAC) will be published on https://www.spglobal.com/spdji/en/ shortly after the EACs have been held. The publication will contain a detailed overview and timelines for implementation of any rules changes.

5) 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.

6) Changes to Markit iBoxx Contingent Convertible Indices

31 July 2022	Monthly preview start date updated from 10th calendar day to 6th calendar day
31 Mar 2021	● Governance and Regulatory Compliance section added
28 Feb 2021	**Annual Index Review 2020** ● New securities enter at their respective ask prices
31 Jul 2020	**Annual Index Review 2019** ● Introduction of updated corporate classification schema ● Implementation of updated Bank Tier Classification ● Updates as part of the changes in definition and treatment of hybrid bond
31 Jul 2020	● update of changes to Forward Schedule
14 Sep 2018	● Inclusion of RT1 bonds
15 Mar 2016	● Updates to the Rebalancing process
30 Nov 2014	● Launch of Markit iBoxx Contingent Convertible Index family

7) 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.

Contractual and content issues

For contractual or content issues please contact:

Markit Indices GmbH
Friedrich-Ebert-Anlage 35-37
60327 Frankfurt am Main
Germany
email: indices@ihsmarkit.com
web: www.ihsmarkit.com

Technical issues and client support

For technical issues and client support please contact:

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

Licences and data

iBoxx is a registered trademark of Markit Indices GmbH. Markit Indices GmbH owns all iBoxx data, database rights, indices and all intellectual property rights therein. A licence is required from Markit Indices GmbH to create and/or distribute any product that uses, is based upon or refers to any iBoxx index or iBoxx data.

Ownership

Markit Indices GmbH is a wholly-owned subsidiary of IHS Markit Limited.

A) ESG Disclosures

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY [1]		
1	**Name of the benchmark administrator.**	IHS Markit Benchmark Administration Limited (IMBA)
2	**Underlying asset class of the ESG benchmark. [2]**	N/A
3	**Name of the S&P Dow Jones Indices benchmark or family of benchmarks.**	iBoxx Benchmark Statement
4	**Do any of the indices maintained by this methodology take into account ESG factors?**	No
Appendix latest update:		May 2023
Appendix first publication		May 2023

[1] The information contained in this Appendix is intended to meet the requirements of the European Union Commission Delegated Regulation (EU) 2020/1817 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation of how environmental, social and governance factors are reflected in the benchmark methodology and the retained EU law in the UK (The Benchmarks (amendment and Transitional Provision) (EU Exit) Regulations 2019.

[2] The 'underlying assets' are defined in European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

Disclaimer

Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates ("S&P DJI") defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

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.

Information presented prior to an index's launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).

Intellectual Property Notices/Disclaimer

 This document does not constitute an offer of services in jurisdictions where S&P DJI does not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P DJI is impersonal and not tailored to the needs of any person, entity, or group of persons. S&P DJI receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P DJI does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P DJI makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P DJI is not an investment advisor, commodity trading advisor, fiduciary, "promoter" (as defined in the Investment Company Act of 1940, as amended) or "expert" as enumerated within 15 U.S.C. § 77k(a), and S&P DJI makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. S&P DJI is not a tax advisor. Inclusion of a security, commodity, crypto currency, or other asset within an index is not a recommendation by S&P DJI to buy, sell, or hold such security, commodity, crypto currency, or other asset, nor is it considered to be investment or trading advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse engineered, reproduced, or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P DJI. The Content shall not be used for any unlawful or unauthorized purposes. S&P DJI and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness, or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" "WHERE IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIMS ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special, or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related information and other analyses, including ratings, research and valuations are generally provided by licensors and/or affiliates of S&P Dow Jones Indices, including but not limited to S&P Global's other divisions such as S&P Global Market Intelligence. Any credit-related information and other related analyses and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. Any opinion, analyses and rating acknowledgement decisions are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Dow Jones Indices does not assume any obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P DJI does not act as a fiduciary or an investment advisor. While S&P DJI has obtained information from sources it believes to be reliable, S&P DJI does not perform an audit or undertake independent verification of any information it receives. S&P DJI reserves the right to vary or discontinue any index at any time for regulatory or other reasons. Various factors, including external factors beyond S&P DJI's control might necessitate material changes to indices.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P Global Ratings reserves the right to assign, withdraw or suspend such acknowledgement at any time and in its sole discretion. S&P Dow Jones Indices, including S&P Global Ratings, disclaim any duty whatsoever arising out of the assignment, withdrawal, or suspension of an acknowledgement as well as any liability for any damage alleged to have been suffered on account thereof. Affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, may receive compensation for its ratings and certain credit-related analyses, normally from issuers or underwriters of securities or from obligors. Such affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, reserve the right to disseminate its opinions and analyses. Public ratings and analyses from S&P Global Ratings are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P Global Ratings publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.

S&P Global keeps certain activities of its various divisions and business units separate from each other to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions, and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate, or otherwise address.

Some indices use the Global Industry Classification Standard (GICS®), which was developed by, and is the exclusive property and a trademark of, S&P Global and MSCI. Neither MSCI, S&P DJI nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P DJI, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

S&P Dow Jones Indices products are governed by the terms and conditions of the agreements under which they may be provided. A license is required from S&P Dow Jones Indices to display, create derivative works of and/or distribute any product or service that uses, is based upon and/or refers to any S&P Dow Jones Indices and/or index data.