Bloomberg Corporate Bond Tradable Tracker Index Methodology

April 23, 2024

Bloomberg

Version Tracker*:

Date	Update
23 January 2023	New Methodology publication
23 April 2024	Methodology Update for the expansion of Tradable Tracker indices across corporate bond markets

*For the latest updates and rules clarifications since the last version noted above, please see INP<GO> on the Bloomberg Terminal

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Introduction

This document is intended to be read in conjunction with the Bloomberg Fixed Income Index Methodology; these documents collectively constitute the index methodology for this Index.

The Bloomberg Corporate Bond Tradable Tracker Indices ("Tradable Trackers") are designed to be rules-based indices that aim to tightly track the broad flagship indices on which they are based. Unlike traditional end-of-day indices, Tradable Trackers are designed to be liquid indices, with intraday indicative pricing, designed to match the duration and sector exposures of the parent indices using a liquid subset of bonds. This document provides the rules for index constituent eligibility, construction, and rebalancing, as well as information on pricing and input data.

Index Construction Methodology

Index Eligibility

Index eligibility criteria and inclusion rules are defined within the index methodology for each Tradable Tracker Index.

Index Construction

The Bloomberg Corporate Bond Tradable Tracker Indices follow the same pricing conventions, calendar(s), publishing time, settlement and cash re-investment assumptions as the parent indices on which they are designed to track.

Tradable Tracker indices are comprised of ~100 issuers across all industry sectors and 2 liquid bonds per issuer. The selection of the issuers, bond liquidity criteria and construction of the index is described below, using the US IG Corporate Bond Tradable Tracker Index as an example:

- **Sector Partitioning**: The bond universe of the Parent Index is partitioned into industry sectors based on Level 3 of the Bloomberg classification for fixed income securities ("BCLASS3") to determine each sectors' Market Value Weight.
    - For example, the US Corporate Bond Index is partitioned into BCLASS3 sectors to determine the sector MV weights for the US IG Corporate Bond Tradable Tracker Index.

- **Issuer Allocation**: The number of eligible issuers per industry sector is based on the Market Value ("MV") % of each industry sector. Tradable Trackers will target ~100 total issuers per index. Sectors with MV% less than 0.5% have no representation in the Tradable Tracker Index.
    - In the below example, the Energy Sector would use 8 issuers based on 8.06% Market Value rounded down.

	#	Market Value (%)
	Total	Total
Total	6780	100.00
Corporate	**6780**	**100.00**
Industrial	**4026**	**61.71**
Basic Industry	243	2.82
Capital Goods	484	5.85
Consumer Cyclical	482	6.79
Consumer Non-Cyclical	1034	16.07
Energy	552	8.06
Technology	491	9.63
Transportation	230	2.44
Communications	447	9.60
Other Industrial	63	0.45
Utility	**941**	**8.12**
Electric	850	7.31
Natural Gas	71	0.63
Other Utility	20	0.18
Financial Institutions	**1813**	**30.18**
Banking	888	20.65
Brokerage Assetmanag	108	1.20
Finance Companies	84	1.08
Insurance	383	4.45
REITS	341	2.72
Other Financial	9	0.08

	# of Issuers
	Total
Total	100.00
Corporate	**100.00**
Industrial	**62.00**
Basic Industry	3
Capital Goods	6
Consumer Cyclical	7
Consumer Non-Cyclical	16
Energy	8
Technology	10
Transportation	2
Communications	10
Other Industrial	0.00
Utility	**8.00**
Electric	7
Natural Gas	1
Other Utility	0.00
Financial Institutions	**30.00**
Banking	21
Brokerage Assetmanag	1
Finance Companies	1
Insurance	4
REITS	3
Other Financial	0.00

- **Issuer Selection**: Once the number of issuers per industry sector is determined, the top issuers are selected based on their MV% within that industry
    - For example, 8 of the 552 issuers in the US Corp Bond Index are selected for the corresponding Tradable Tracker.

Company name	Ticker	MV% in the industry
Issuer A	ISA	7.58%
Issuer B	ISB	6.96%
Issuer C	ISC	6.83%
Issuer D	ISD	6.34%
Issuer E	ISE	5.71%
Issuer F	ISF	5.34%
Issuer G	ISG	5.22%
Issuer H	ISH	4.22%
Issuer I	ISI	3.98%
Issuer J	ISJ	3.60%
Issuer K	ISK	2.98%
Issuer L	ISL	2.98%

Criteria for Selecting Liquid Bonds

The construction of Tradable Trackers aims to select bonds with the most projected liquidity over the 3-month period after the rebalance date. Characteristics considered for determining bond liquidity include:

- Age: Time elapsed since bond issuance
- Amount Outstanding: Amount at time of eligibility consideration, not the original amount issued
- Intraday BVAL (IBVAL) direct observations

The index prioritises bonds with the highest liquidity metric (using the liquidity calculation set out below) from the selected issuers (liquidity score = 0.5 * {average daily number of TRACE trades (>250k) in the past 20 days} + 0.3 * {amount outstanding at time of rebalance} - 0.2 * {age of issue}.

- **Liquid Bond Selection of Issuer**: For each selected issuer, the MV weighted Option-Adjusted Spread Duration ("OASD") is calculated.

$$TickerOASD = \frac{\sum_{Ticker's\ bonds\ in\ LUAC}(MV_{eachBond} * OASD_{bond})}{\sum_{Ticker's\ bonds\ in\ LUAC}(MV_{eachBond})}$$

- Bonds from the selected issuers are partitioned into two buckets:
  1. Shorter Duration Bucket: Bonds with duration less than issuer MV weighted OASD
  2. Longer Duration Bucket: Bonds with duration greater than issuer MV weighted OASD

- A liquidity score is assigned to each eligible bond. The score is used to rank bonds from the most liquid to the least liquid within each bucket, based on the liquidity score:

$$Liquidity\ Score = 0.5 * \ Previous\ Trace\ Avg + \ 0.3 * \ AmtOut - \ 0.2 * Age$$

  Where: *PreviousTraceAvg* is the average daily number of dealer-to-client trades (over USD 250K) from TRACE for the previous calendar month, *AmtOut* is the bond amount outstanding at the time of the rebalance and Age is the time in years between the rebalance date and the bond's issuance date[1].

- Two bonds per issuer are selected: one from the Shorter Duration Bucket with the highest liquidity score and one from the Longer Duration Bucket with the highest liquidity score.

- Once the bonds to be used are selected, the weights of each bond in the index are determined such that their combined MV% is equal to the issuer's MV% in the Parent Index and such that their weighted duration is equal to the OASD of the issuer within the Parent Index plus 1/8 of a year.

$$\underline{W1} + \underline{W2} = \text{TickerWt}$$
$$\underline{W1} * \text{OASD1} + \underline{W2} * \text{OASD2} = \text{TickerWt} * \text{TickerOASD} + 1/8$$

  TickerWt = MV% Weight of Ticker Among chosen issuers in Industry*IndustryMV% weight

  Please Note: Not all Tradable Tracker indices will use TRACE trade data when determining the eligible bond liquidity score, namely those which are not denominated in USD where a consolidated tape does not exist. For example, the *Liquidity Score* assigned to bonds within the Euro Investment Grade Corporate Bond Tradable Tracker Index does not include the average daily number of dealer-to-client trades from TRACE (*PreviousTraceAvg*) as part of the calculation.

Index Rebalancing

The index will be rebalanced quarterly (end of Feb, May, Aug and Nov) on the last business day of the quarter and the eligibility of bonds will be determined on the fourth to last business day of each quarter.

[1] Each of these three components in the equation is transformed into a z-score (winsorized between -4 and 4) before being used in the calculation.

Back Test Assumptions

The rules outlined above are applied historically and the Tradable Tracker Indices are backfilled to March 2, 2020.

Limitations of the Index

Though the Index is designed to be representative of the markets it measures or otherwise aligns with its stated objective, it may not be representative in every case or achieve its stated objective in all instances. It is designed and calculated strictly to follow the rules of this Methodology, and any Index level or other output is limited in its usefulness to such design and calculation.

Markets can be volatile, including those market interests that the Index measures or upon which the Index is dependent to achieve its stated objective. For example, illiquidity can have an impact on the quality or amount of data available to the administrator for calculation and may cause the Index to produce unpredictable or unanticipated results.
In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors.

In particular, the indices measure global fixed income markets. As with all fixed income investing, the indices are exposed to interest rate risk. The value of bonds fluctuates with the changes in the interest rate policies established by central banks and the natural movement of rates over time. Bonds with optionality will also be impacted by interest rate volatilities. Most fixed income securities often trade at a spread to the base interest rate curve. The level of the spread reflects the additional premium an investor requires for taking the additional credit risk, liquidity risk, and other risks. The change of the spread, which reflects primarily the change in perceived risk of a security, comes from both common forces, affecting all bonds with similar characteristics, and information specific to a particular issuer. As the indices are designed to measure those markets, its indices could be materially impacted by market movements, thus significantly impacting the use or usefulness of the fixings for some or all users.

Benchmark Oversight and Governance

Benchmark governance, audit and review structure

Please refer to the BISL Benchmark Procedures Handbook available here.

Index and data reviews

Please refer to the BISL Benchmark Procedures Handbook available here.

Expert judgement

Please refer to the BISL Benchmark Procedures Handbook available here.

Conflicts of interest

Please refer to the BISL Benchmark Procedures Handbook available here.

Restatement policy

Please refer to the BISL Benchmark Procedures Handbook available here.

Cessation policy

Please refer to the BISL Benchmark Procedures Handbook available here.

Glossary

BCLASS3	Bloomberg level 3 classification for fixed income securities.
Longer Duration Bucket	Bonds with duration greater than issuer Market Value weighted Option-Adjusted Spread Duration
Shorter Duration Bucket	Bonds with duration less than issuer Market Value weighted Option-Adjusted Spread Duration
Market Value	Market Value reflects the current price plus accrued interest times the amount outstanding of a bond.
Parent Index	Example: Bloomberg US Corporate Bond Index
TRACE	The Trade Reporting and Compliance Engine is the FINRA-developed vehicle that facilitates the mandatory reporting of over-the-counter transactions in eligible fixed income securities.

Appendix

EXPLANATION OF HOW ESG FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
Item 1. Name of the benchmark administrator.	Bloomberg Index Services Limited ("BISL")
Item 2. Type of benchmark or family of benchmarks.	Fixed Income
Item 3. Name of the benchmark or family of benchmarks.	Bloomberg Corporate Bond Tradable Tracker Indices
Item 4. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	No
Item 5. Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816. Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets. The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks.	
(a) List of environmental factors considered:	Not applicable
(b) List of social factors considered:	Not applicable
(c) List of governance factors considered	Not applicable
Item 6. Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816, depending on the relevant underlying asset concerned. Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets. The ESG factors shall not be disclosed for each constituent of the benchmark but shall be disclosed at an aggregated weighted average value of the benchmark. Alternatively, all of this information may be provided in the form of a hyperlink to a website of the benchmark administrator included in this explanation. The information on the website shall be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years.	
(a) List of environmental factors considered:	As above
(b) List of social factors considered:	As above
(c) List of governance factors considered:	As above
Item 7. Data and standards used	
(a) Data input. (i) *Describe whether the data are reported, modelled, or sourced internally or externally.* (ii) *Where the data are reported, modelled, or sourced externally, please name the third-party data provider.*	Not Applicable
(b) Verification and quality of data. *Describe how data are verified and how the quality of those data is ensured.*	Not Applicable
(c) Reference standards *Describe the international standards used in the benchmark methodology.*	N/A
Date on which information has been last updated and reason for the update:	January 2023, initial publication

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