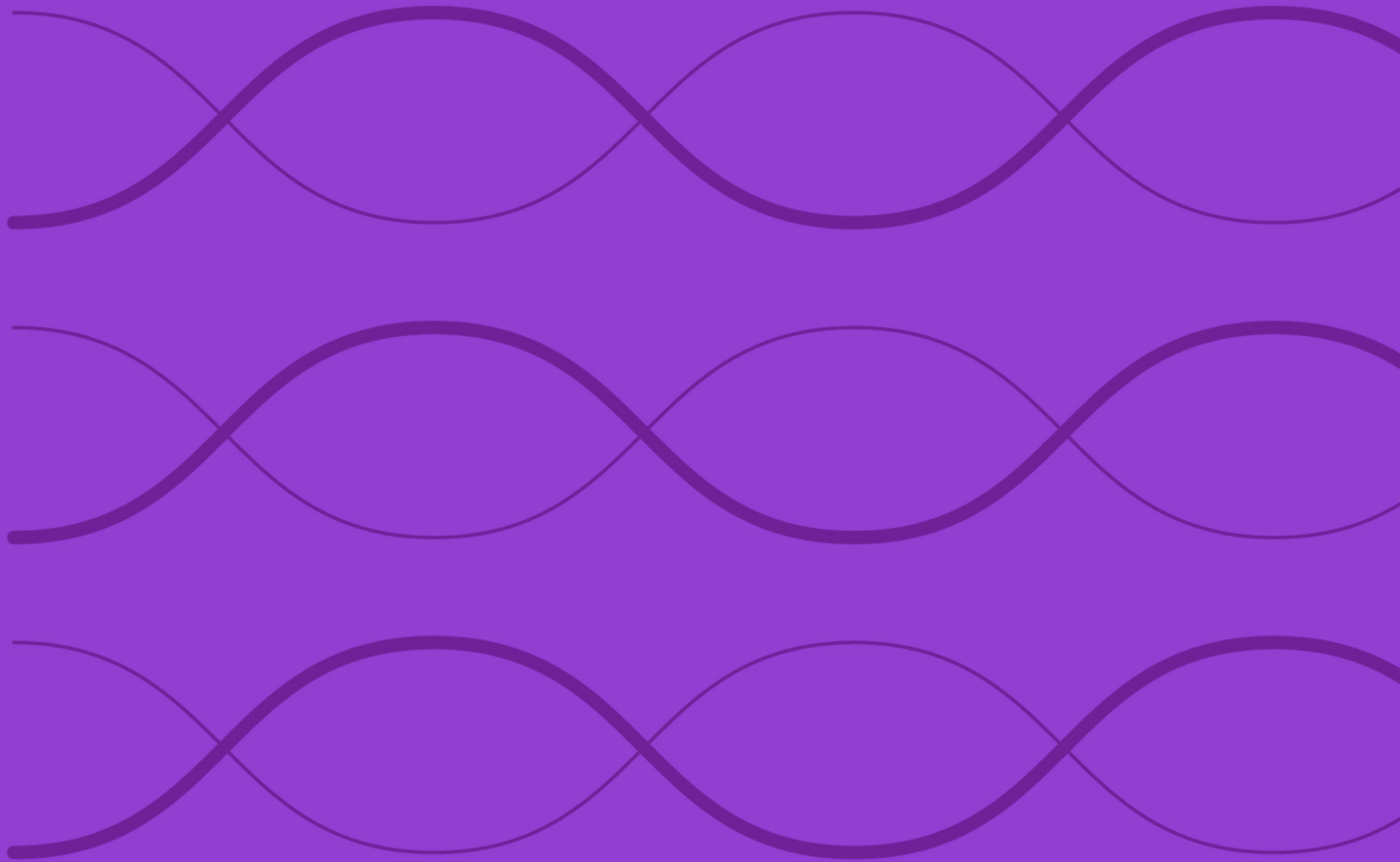


Morningstar Fixed Income Indexes File and Delivery Specifications



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Overview

This document outlines index file format and delivery specifications for the Morningstar Fixed Income Indexes.

Index Files Delivered

Morningstar delivers seven files via SFTP: one index-level file, three constituent files, and three aggregate index files as detailed below.

Index-level File

- **Index Level File:** The daily Index Level file contains the complete set of index level data for each index variant. Each variant represents a price or total return index level value, denominated in a specific currency, either hedged or unhedged to the base currency of the index. Each variant is identified by its Morningstar portfolio identifier and a unique Morningstar security identifier. There is one Index Level file for each index.

Constituent Files

Security File: The Security File contains the daily constituent data for the portfolio. There is one Security File for each index. All files follow the same data layout, consisting of:

- Security and issuer identifiers and security attributes
- Par amounts and market values in local and/or base currencies
- Analytically derived bond attributes such as yield, spread, and duration
- Price and total return for each security
- Return attribution for each security
- Beginning-of-month values, which are static throughout the month, are identical to the portfolio file data delivered on the last calendar day of the previous month. The beginning-of-month data fields provide a daily baseline showing how the portfolio weights were derived. The weights are simply the market values of each security at the close of the previous month, translated into par amounts. The par amounts allow the security market values to float during the month.

Portfolio File: The monthly Portfolio File is the rebalanced portfolio of constituents that accounts for securities added or dropped from the index according to the index rules. It is delivered on the last calendar day of the month, effective on the first day of the forward month. The Portfolio File sets the new beginning of month weights for each security, which remain static throughout the month.

- The beginning-of-month values identify the process employed to arrive at the beginning-of-month weights
 - For market-capitalization-weighted indexes, the weights are the market values of each security at the close of the previous month
 - For indexes that include capping, securities that are capped are indicated by the capping factors and the index weights are adjusted
 - The adjusted weights are used to derive adjusted par amounts in local currency (bom_adj_par_amt_lc); these par amounts are fixed for the rebalance period

- The daily market values (daily_mktval_base and daily_mktval_lc) for each security are the adjusted par amounts multiplied by the closing (dirty) price each day
- **Pro Forma File:** The Pro Forma File is a preview of the Portfolio File for the forward month, is delivered on all business days prior to the last business day of the month for most of the fixed income indexes. For sustainability fixed income indexes, the Pro Forma file is delivered starting three to five days prior to the last business day of the month.

Note: Constituent files are not delivered for indexes within the Morningstar Cash Indexes family as these indexes do not contain constituents.

Aggregate Index Files

Index Security File: The Index Security File aggregates the data in the daily Security File to show the weighted average attributes of the portfolio. It also shows the price and total returns and return attribution for the index. As the daily Index Security File contains only aggregate portfolio and index level data, the file is a single row for each index.

Certain monthly (_MTD) data return attribution data points listed below are populated only on the last day of the month.

Coupon_rtn_mtd, Amortization_rtn_mtd, Paydown_rtn_mtd, Curve_shift_rtn_mtd, Vol_change_rtn_mtd, Spread_change_rtn_mtd

Index Portfolio File: The Index Portfolio File aggregates the data in the monthly Portfolio File to show the weighted average attributes of the monthly portfolio. It is delivered on the last calendar day of the month, effective on the first day of the forward month.

Index Pro Forma File: The Index Pro Forma File aggregates the data in the Pro Forma File to show the weighted average attributes of the Pro Forma portfolio. It is delivered on all business days prior to the last business day of the month (the same schedule as the pro forma file).

File Names and Schedule

File	Name and Frequency		Description
Index Level File	INDEX_LEVEL_#_YYYYMMDD.txt ¹ Daily, except calendar holidays		End-of-day listing of index levels for all index variants for the date specified in the file name
Security File	SECURITY_#_YYYYMMDD.txt ¹ Daily, except calendar holidays	Daily,	End-of-day listing of index constituent data and returns for the date specified in the file name
Portfolio File	PORTFOLIO_#_YYYYMMDD.txt ¹ Calendar Day of month ²	Last	Monthly listing of index constituent data for the rebalanced portfolio effective on the first date of the forward month
Pro Forma File	PROFORMA_#_YYYYMMDD.txt ¹ Daily, except month-end and calendar holidays ³	Daily,	End-of-day listing of expected changes to the Portfolio File effective on the first day of the forward month
Index Security File	INDEX_SECURITY_#_YYYYMMDD.txt ¹ Daily, except calendar holidays		End-of-day listing of aggregate index data and index returns for the date specified in the file name
Index Portfolio File	INDEX_PORTFOLIO_#_YYYYMMDD.txt ¹ Last Calendar Day of month ²		Monthly listing of aggregate index data for the rebalanced portfolio effective on the first date of the forward month
Index Pro Forma File	INDEX_PROFORMA_#_YYYYMMDD.txt ¹ Daily, except month-end and calendar holidays ³		Preview of expected changes to the Index Portfolio File effective on the first day of the forward month

¹Where # indicates the index character code. Refer to the accompanying Morningstar Fixed Income Indexes File Format document.

²If month-end falls on a weekend or an index holiday, it will still be delivered for the month-end date. The portfolio file and their corresponding data points will be the same as the ones in the pro forma file delivered on the last business day of that month. Any index with capping will reflect the cap factor in the portfolio file.

³If month-end falls on a weekend or an index holiday, it will be delivered for the last business day before the day portfolio and index portfolio files are published (that is, the last business day before the month-end or the last business day before the index holiday).

All files are delivered after the market close. The Indexes holiday calendar is available on the Resources webpage [here](#).

File Specifications

- Data on Morningstar Indexes is delivered via file transfer protocol (FTP) in pipe (|) delimited format unless otherwise stated.
- Fields in the Morningstar data files are ASCII representations for numeric, character (alphanumeric), date, and text data. A zero-length field will be used (i.e., "|") if a particular field's data is not applicable in the record.
- Numeric data fields represent decimal floating-point numbers. The width of a numeric field has both a whole part and a decimal part (i.e.: WholePart.DecimalPart). Floating-point numbers are reported to 8 decimal places. Arithmetic or algebraic functions can be performed on numeric fields if required.
- Integer fields represent 32-bit integer numbers.
- Character (alphanumeric) fields are not case-sensitive. Character fields may include digits and spaces.
- Date fields are 10 digits long and have the format MM/DD/YYYY.

Please refer to the accompanying Morningstar Fixed Income Indexes File Format document for more details on the fields, field description, and field type for each file.

Appendix

Source: ICE Data Services

Table 4: Ratings scale for calculating composite rating

Numeric	Composite	Moody's	S&P	Fitch
1	AAA	Aaa	AAA	AAA
2	AA1	Aa1	AA+	AA+
3	AA2	Aa2	AA	AA
4	AA3	Aa3	AA-	AA-
5	A1	A1	A+	A+
6	A2	A2	A	A
7	A3	A3	A-	A-
8	BBB1	Baa1	BBB+	BBB+
9	BBB2	Baa2	BBB	BBB
10	BBB3	Baa3	BBB-	BBB-
11	BB1	Ba1	BB+	BB+
12	BB2	Ba2	BB	BB
13	BB3	Ba3	BB-	BB-
14	B1	B1	B+	B+
15	B2	B2	B	B
16	B3	B3	B-	B-
17	CCC1	Caa1	CCC+	CCC+
18	CCC2	Caa2	CCC	CCC
19	CCC3	Caa3	CCC-	CCC-
20	CC	Ca	CC	CC
21	C	C	C	C
22	D		D	D

File and Delivery Specifications Version History

Date	Description
May 2019	Minor language updates for clarification purposes.
March 2022	Additional language updates for clarification purposes. Removed list of field description and file name conventions from document and created accompanying fixed-income file format for Excel. Updated pro forma delivery schedule.
January 2024	Updated pg 5 for elaboration on portfolio file, added Appendix
June 2025	Format and font style updated. No changes to content.

About Morningstar Indexes

Morningstar Indexes was built to keep up with the evolving needs of investors—and to be a leading-edge advocate for them. Our rich heritage as a transparent, investor-focused leader in data and research uniquely equips us to support individuals, institutions, wealth managers, and advisors in navigating investment opportunities across major asset classes, styles, and strategies. From traditional benchmarks and unique IP-driven indexes to index design, calculation, and distribution services, our solutions span an investment landscape as diverse as investors themselves.

Morningstar Index Methodology Committee

The Morningstar Index Methodology Committee oversees all new index development, index methodology changes, and cessation of indexes for any indexes where Morningstar owns the intellectual property. This committee is also charged with ensuring that indexes align with Morningstar Research principles and values. The group comprises members of the index team with index research, product development, product management, client service, index implementation, and operation expertise who provide the first layer of governance over index design and methodology.

Morningstar Index Services Methodology & Administration Committee

The purpose of the Morningstar Index Services Methodology & Administration Committee is to oversee all new index development, index methodology changes, and cessation of indexes for any indexes where Morningstar provides calculation and administration services but does not own the Intellectual Property of the indexes. The group is comprised of members of the index team with index research, product development, product management, client service, index implementation and operation expertise who provide the first layer of governance over the index calculation services and administration business, with regard to index design and methodology.

Morningstar Index Operations Committee

The Morningstar Index Operations Committee governs the processes, systems, and exception handling of the day-to-day management of all live indexes, including index rebalancing and reconstitution, restatements, market classification, and contingency management. The committee oversees the annual review of index methodology, as required by European Benchmarks Regulation (the “BMR”), ensuring that methodologies remain fit for purpose and continue to achieve their stated investment objectives. The group comprises members of the index team with data, operations, corporate actions, product development, index launch, client service, and index management experience who provide the first layer of governance over index operations.

Morningstar Index Oversight Committee

The Morningstar Index Oversight Committee is responsible for the index oversight function as per the requirements of the European Benchmarks Regulation (the “BMR”), providing independent oversight of all aspects of the governance of benchmark administration. Its remit extends to all calculation and administration-related business activities of Morningstar Indexes, including administration of Morningstar-owned benchmarks as well as client-owned benchmarks and index calculation. The oversight function is part of the organizational structure of Morningstar but is separate and independent from the index business, index management, and the other index committees.

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