

MSCI GOVERNMENT BOND INDEXES METHODOLOGY

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1. General Methodology Overview

MSCI Government Bond Indexes are constructed to measure the performance of eligible bonds issued by government-related entities in the global fixed income markets.

The MSCI Government Bond Indexes are rules based and conform to a general construction guideline as described in this methodology document.

The spirit of the index design is to be representative of the market universe, as well as be replicable by global institutional investors. Broadly, the index methodology selects fix coupon, local currency, investment grade bonds from the relevant issuers. The eligible bonds are further screened for maturity and size cut-offs as outlined in relevant sections of this methodology document.

2. Index Construction: General guidelines

Security Type: The MSCI Government Bond Indexes (herein 'the Indexes') include local currency bonds issued from government-related entities within the global fixed income universe. In general, the universe includes fixed rate coupon bonds.

Credit Rating: Each issuer of index constituents must be rated by either S&P or Moody's. For bonds that are rated by both S&P and Moody's, the lower rating will be used to determine the index inclusion criteria.

Index constituents that are not rated at a bond level will be considered for index inclusion based on S&P or Moody's issuer level long term credit rating.

Maturity: Each index constituent must have a maturity greater than or equal to 1 year as measured from the Rebalancing Date (defined below). New additions to the Indexes must have a maturity greater than or equal to 1 ½ years as measured from the Rebalancing Date.

Event: Eligible securities must not have any known buybacks which will result in the amount outstanding of the bond falling below the minimum bond size criteria over the next 1 month as measured from the Rebalancing Date.

Weighting: Index constituents will be weighted by market value¹ within the index.

Pricing: Daily bond valuation utilizes bid prices from our vendors. However, calculations are made available which incorporates transaction cost. Securities not priced by the designated pricing source are not eligible for index inclusion.

Settlement: MSCI applies standard same-day (T+0) index settlement convention, unless otherwise specified.

¹ Please refer to MSCI Fixed Income Index calculation methodology at www.msci.com/index-methodology for further details on security level market value calculation.

3. Index Construction: MSCI Government Bond Index – Developed Markets

The MSCI Government Bond Index – Developed Markets (“MGBI-DM Index”) is a multi-currency index that includes fixed-rate, local currency government bonds issued by Developed Market issuers. In addition, each eligible country must be rated Investment Grade, utilizing the lower of the two ratings from Moody’s and S&P.

The MGBI-DM Index construction follows general guidelines outlined in Section 2.

In addition to those, the following rules are also applicable for the MGBI-DM Index construction.

Eligible Countries for MGBI-DM Index inclusion: The MGBI-DM Index includes countries that have the following assessment as per the MSCI Fixed Income Market Classification framework²

- Economic Development Assessment for the country must be Developed
- Market Size as measured by total eligible debt stock must be greater than \$50 billion for inclusion in the index and the market must maintain a size of greater than \$25 billion to remain in the index.
- Market Accessibility rating should be “High” on all the seven parameters enlisted in the MSCI’s Fixed Income Market Accessibility Assessment.

List of countries eligible for inclusion within the MGBI-DM Index are noted in Table 1.

Table 1

Countries eligible for inclusion in MGBI – DM Index		
Australia	Israel	Spain
Austria	Italy	Switzerland
Belgium	Japan	Sweden
Canada	Netherlands	UK
Denmark	New Zealand	USA
Finland	Norway	
France	Portugal	
Germany	Singapore	
Ireland	Slovakia	

Size: MSCI calibrates and determines size-based index inclusion criteria to balance representativeness and liquidity for each currency within the index.

² Please see Appendix for greater detail.

At a security level, size is determined by its current amount outstanding. At rebalancing, each security included in the MGBI-DM Index will have size greater than or equal to the thresholds tabulated in Table 2.

Table 2

Currency	Security Size Threshold
USD	2 billion
EUR	2 billion
GBP	2 billion
CAD	2 billion
SGD	2 billion
AUD	2 billion
CHF	2 billion
ILS	5 billion
DKK	20 billion
NOK	20 billion
SEK	20 billion
JPY	300 billion

4. Index Construction: Single currency MSCI Government Bond Indexes

MSCI Government Bond Indexes are constructed to measure the performance of eligible bonds issued by government-related entities in the global fixed income markets.

The index construction for the single currency MSCI Government Bond indexes (“the Single Currency Indexes”) follow the general guidelines outlined in Section 2.

Similar to the broader based index criteria, the Single Currency Indexes will screen for amount outstanding. At rebalancing, each security included in the following Single Currency Indexes will have size greater than or equal to the thresholds tabulated in Table 3 below.

Table 3

Index	Security Size Threshold
MSCI U.S. Government Bond Index	USD 2 billion
MSCI Eurozone Government Bond Index³	EUR 2 billion
MSCI UK Government Bond Index	GBP 2 billion
MSCI Canada Government Bond Index	CAD 2 billion
MSCI Canada Province & Municipal Bond Index	CAD 150 million

³ Countries included in the MSCI Eurozone Government Bond Index are Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain.

5. Index Rebalancing & Maintenance

The composition of the MSCI Government Bond Index is reviewed **monthly**, with an effective rebalancing impact of the first business day of the month. For clarification, bonds are added to the index on the closing of last business day of every month, however, the return impact is on the first business day of the month.

Change in the Index composition is based on latest data available as of three days prior to the Rebalancing Date, which is defined as the Cut-Off Date.

Any inclusion or exclusion criteria satisfied for a given security in the universe, after the Cut-Off Date, will generally become effective at the following monthly rebalancing; should conditions remain unchanged.

Any cash that accrues within the index in each month is re-invested on a pro-rata basis across the index constituents, on the Rebalancing Date. In essence, cash in the index is swept out on rebalancing and the opening index portfolio on the Rebalancing Date starts with zero accrued cash balance.

For further information on index total return calculation and the handling of corporate events, please refer to the MSCI Fixed Income Index Calculation Methodology. Additionally, for insights regarding the holiday calendar utilized in the indexes, please refer to the MSCI Fixed Income Data Methodology⁴.

⁴ The methodologies are available at: <https://www.msci.com/index-methodology>

Appendix I: Fixed Income Market Classification Framework

The market classification is a key input in the process of index construction as it drives the composition of the investment opportunity sets to be represented. The approach used by MSCI aims to reflect the views and practices of the international investment community by striking a balance between a country’s economic development and the accessibility of its market while preserving index stability. The MSCI Fixed Income Market Classification Framework consists of following three criteria: Economic Development, Size and Liquidity as well as Market Accessibility.

To be assigned a Market Classification of Developed, a country must be deemed Developed in each of the three individual pillars represented in Table 4 below.

Table 4

A Economic Development Assessment	
<i>To be categorized as “Developed” it must meet 2 of the following 3 criteria:</i>	
1. IMF Economic Grouping of ‘Advanced’ ⁵	
2. World Bank GNI per capita ⁶ – above the 85th percentile rank for three consecutive years. The 85th percentile GNI per capita thresholds for the last 3 years are \$36k, \$35k and \$36k respectively.	
3. Membership to the European Monetary Union ⁷	
B	Size & Liquidity Assessment
	<i>Specific to each index methodology. Please refer to relevant methodology sections for details.</i>
C Fixed Income Market Accessibility Assessment	
<i>To be categorized as “Developed” the country must be rated as “High” on all the following parameters</i>	
C.1 Investor qualification requirement	
C.2 Investor registration & setup	
C.3 Capital Flow Restriction	
C.4 Foreign Exchange Market Liberalization	
C.5 Stability of Institutional Framework	
C.6 Ease of Fixed Income Market accessibility	
C.7 Availability of a functioning Repo market	

⁵ IMF economic grouping data is sourced from IMF’s website: <https://www.imf.org/en/Publications/WEO/weo-database/2023/April/groups-and-aggregates#ae>

⁶ World Bank GNI per capita data is sourced from World Bank’s website: <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>

⁷ Data is sourced from European Union’s website: https://european-union.europa.eu/institutions-law-budget/euro/countries-using-euro_en

Glossary - Fixed Income Market Accessibility Assessment (Table 4 - Section C):

- **Investor qualification requirement** - Existence of qualifying conditions for international investors. Existence of a level playing field for all international investors.
- **Investor registration & account setup** - The ease of registration requirements for international investors for establishing local accounts as well as Tax IDs.(e.g., documents to be provided, approvals required). The time to complete the process, inclusive of document preparation should be minimal.
- **Capital Flow Restriction** (Capital Controls) - Full ability to invest locally in a timely manner and repatriate without restrictions.
- **Foreign Exchange Market Liberalization** - Existence of developed onshore and offshore FX market.
- **Stability of Institutional Framework** - Basic institutional principles such as the rule of law and its enforcement as well as the stability of the "free-market" economic system. Track record of government intervention with regards to foreign investors.
- **Ease of fixed income market accessibility** – The ease of fixed income market accessibility for foreign investors via Euroclear or Clearstream.
- **Availability of functional Repo market** – Existence of function Repo market in the country.

Appendix II: Changes to this document

The following sections have been modified since May 2023:

Added Section 3 - Index Construction: MSCI Government Bond Index – Developed Markets (MGBI – DM)

Added Appendix: Fixed Income Market Classification Framework

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