



Nasdaq BulletShares[®] USD Emerging Markets Debt Indexes Methodology

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Index Overview

Description

Nasdaq BulletShares® USD Emerging Markets Debt Indexes (“the Indexes”) measure the performance of maturity-targeted segments of the US dollar-denominated emerging markets bond market. The BulletShares® methodology allocates bonds from the Index family’s Index Universe into the Nasdaq BulletShares® Indexes based on maturity or, in some cases, effective maturity date.

Index Universe

The Index Universe includes US dollar-denominated bonds issued by companies, sovereign entities, governments, or government-related agencies, domiciled in the emerging markets with one year or more until maturity. For a complete list of eligible emerging market countries, please see the Region Classification section of the Invesco Indexing Investable Universe Methodology at www.invescoindexing.com. The bonds must have a credit rating of at least C from Standard and Poor’s or Fitch, or Ca by Moody’s, and the bonds must be sufficiently liquid, with an outstanding face value of at least \$300 million for corporate bonds and \$500 million for other bonds (existing bonds in the Index Universe require 80% of the initial minimum face value qualification to remain). To ensure adequate investability, the following bond types are specifically excluded from Index consideration: private placements, except for Regulation S and Rule 144(a) bonds; pay-in-kind (PIK) bonds; floating rate notes; zero coupon bonds; convertible bonds; bonds cum or ex-warrant; inflation or other index-linked bonds; bonds with a dirty price below \$80; perpetual securities; preferred shares; securities covered by the [Executive Order](#)¹ prohibiting investment in certain Chinese companies; and securities for which the Index Calculation Agent is unable to, or is prohibited from providing an evaluated price.

Security Selection

On a semi-annual basis (last calendar day of June and December), existing bonds in the Index Universe are distributed into Nasdaq BulletShares® USD Emerging Markets Debt Indexes in accordance with their effective maturities. If no embedded issuer call option exists, then effective maturity is the actual year of maturity. If a bond contains an embedded issuer call option, with the first call date within 13 months of maturity and a par call price, then the effective maturity shall be its actual year of maturity. In other cases, the effective maturity shall be its actual year of maturity unless the yield to next call date is less than the yield to maturity, in which case its effective maturity shall be the year of the next call date.

Security Weighting

Nasdaq BulletShares® USD Emerging Markets Debt Indexes employ a market value weighting methodology to weight individual positions, subject to a 5% limit on individual issuers in each Index applied at each monthly rebalancing prior to the final maturing year of an Index. Each Index also has a 10% limit on country weight. Once set, target weights are free to float due to market movement.

All security weighting criteria are applied on the Reference Date of an Index update (see Updates on page 6).

¹ Executive Order 14032 on Addressing the Threat from Securities Investments that Finance Certain Companies of the People’s Republic of China, signed by President Joseph Biden June 3, 2021.

History

The Indexes have available history back to their base dates, which begins as early as December 31, 2012 for the Indexes with maturity years 2022 - 2024.

Related Indexes

Several other related Invesco target maturity fixed income indexes are available. Similar to the Nasdaq BulletShares® USD Emerging Markets Debt Indexes, these indexes form a series in which the constituents of each represent a single effective maturity year; however, they differ in their sector coverage. Please visit www.InvescoIndexing.com/en/indexes/fixed-income to learn more about these related indexes.

Index Details

Reinvestment

Market values of coupon payments as well as matured and called proceeds (including any accrued interest paid in connection with the redemption of the bond) are deemed reinvested as of the payment date in 13-week US Treasury Bills until the next Index rebalance. In the maturing year, all reinvestments will remain in the US Treasury Bill until the termination of the Index. In the last two months of the maturing year, the US Treasury Bill that matures soonest after year end will be used.

Updates

Prior to the maturing year of an Index, the Index is reconstituted on a semi-annual basis on the last calendar day of June and December (together, "Reconstitution Months") and rebalanced monthly on the last calendar day of each month ("Rebalance Months").

Index Reconstitution

During Index Reconstitution, each BulletShares® USD Emerging Markets Debt Index is reconstituted to reflect changes in the Index Universe, as well as changes in the deemed effective maturities of callable bonds as described in the Security Selection section on page 3.

During the maturing year of an Index, there is no reconstitution. The portfolio of bonds established in connection with the reconstitution at previous year end will be fixed for the remainder of the life of the Index, during which time the Index's constituents are set to float due to market value changes. Notwithstanding this treatment, bonds that no longer meet the Index Universe eligibility criteria as of each month's Reference Date will be deleted on that month's Effective Date. If the originally assigned effective maturity date of a bond has passed and no call announcement is made, the security's effective maturity date will be reassessed, and the bond will be reassigned at the next monthly rebalancing.

Index Rebalance

During Index Rebalance, each Index is rebalanced to reflect the current relative market values of its constituents and to incorporate any new bonds in the Index Universe that qualify for inclusion in accordance with the effective maturity process as described in the Security Selection section on page 3. Existing bonds deleted will be excluded for the next three monthly rebalances (including the current rebalance).

See "Index Overview" on page 3 for more information about security selection and weighting.

Index Termination

Any remaining bonds or US Treasury securities in a Nasdaq BulletShares® USD Emerging Markets Debt Index as of the end of the Index's year of maturity are valued as of the close of business on the last business day of December in the Index's designated year of maturity, and the Index is terminated as of December 31st, whether or not such date is the last business day

Index Key Dates

The key dates are as follows. The Index Review Team (see Governance on page 9) may change these dates for reasons including market holidays. Any such changes will be publicly announced with as much advance notice as possible under the circumstances. All events take place after the close.

Event	Day	Description
Reference Date	The 15th calendar day of the month, or the first business day prior to the 15 th if that day is not a business day	Data is captured for Index construction
Announcement Date	Five business days before the last business day of the month	Summary of Index rebalance changes are announced to public
Pro-Forma Date	Four business days before the last business day of the month	Preliminary Index weights begin to be distributed to Index subscribers
Effective Date	Calendar month-end, whether or not the date is also a business day	Rebalanced Index weights are finalized

Index Calculation and the Role of the Calculation Agent

The calculation agent for the Index (“the Calculator”) is Nasdaq. The Calculator evaluates the closing value of the Index, updates the Index at Reconstitution and Rebalance Months based on constituent selections and weightings determined either by Invesco Indexing LLC or the Calculator (with appropriate oversight and review by Invesco Indexing), taking into account corporate events, and disseminates the values of the Index to Invesco Indexing LLC and major index data distribution partners (see Index Information and Data Dissemination on page 11).

Calculator Input Data Used and Hierarchy of Input Data

The Index is calculated using closing prices or last transacted prices of underlying constituent securities from exchanges or exchange equivalents. Should this type of data be unavailable, the Index may be calculated using quotes or evaluated data or, in case when continued availability of transacted security prices from security exchanges is suspended, the Calculator reserves the right to exercise a judgement call, including carrying forward the latest available closing price.

Use of Discretion and/or Expert Judgement

No discretion or expert judgement is exercised by Invesco Indexing LLC in the determination of daily index pricing. Rules-based index methodologies, which cover index construction, maintenance and calculation, provide that discretion is not used in the daily pricing of the indexes except in unusual cases not effectively addressed by the methodology, which could be exercised by the Calculator. These include, but may not be limited to:

- Corporate events not previously encountered,
- Structural changes to the underlying markets,
- Operational issues at security exchanges,
- Geo-political events,
- Technological problems / failures, or
- Natural disaster or other business continuity process-related event.

In such circumstances, the calculating agent will inform Invesco Indexing LLC of any discretion being used.

Potential Limitations of the Methodology and Benchmark Calculation

The potential limitations of daily Index calculation include circumstances where the prices of constituent elements of the Index are not available, either because there are insufficient participants or because the exchange(s) / exchange equivalent(s) suffers an unexpected outage or closure or Invesco and/or the Calculator is denied permission to use such data for determining the Index. In such circumstances an announcement will be made to notify clients, including whether the Index will not be published or delayed in publication.

Index Policy

All Index constituents are evaluated daily for data needed to calculate Index levels and returns. The Index follows the general Index policies of the Calculator as described below.

Announcements

Best efforts are made to announce any changes to Index methodology well ahead of time via the Invesco Indexing website and via email to all Index clients.

Pro-Forma Files

Invesco Indexing provides constituent pro-forma files (*yyyymmdd_ticker_PROFI_01.txt*) each time the Index rebalances. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights effective for the upcoming rebalancing. The actual weight of each security at the Index rebalance typically differs from the pro-forma weights due to market movements.

Holiday Schedule

The Index is calculated daily, throughout the calendar year. The Index follows the holiday schedule outlined by the Securities Industry and Financial Markets Association (SIFMA).

Governance

The Index is managed by the Index Review Team (IRT). The IRT consists solely of members of Invesco Indexing. The IRT meets at least annually to review and revise Index methodology described in this document as appropriate. The IRT meets at least annually to review additions and deletions to the Index. All changes to the Index on Reconstitution and Rebalance Months are subject to the approval of the IRT, and the IRT may make adjustments to the Index at its discretion when such changes are reasonable.

Index Methodology Update and Cessation Policy

Invesco Indexing periodically, at least annually, reviews each Index and its accompanying methodology, in addition to periodic rebalancing (if applicable), in an effort to ensure the Index continues to accurately represent that portion of the market it was originally intended to, and delivers the outcomes one would expect from the Index's exposures.

The procedures for the internal review of the methodologies, changes to the methodologies and procedures performed when the Index administered is ceasing publication are described in detail in the Changes to Benchmark Methodology and Cessation Policy.

Return Types and Tickers

The Calculator computes the total return for the Index on a daily basis.

Index Name	Ticker
Nasdaq BulletShares [®] USD Emerging Markets Debt 2022 Index	BSEMM
Nasdaq BulletShares [®] USD Emerging Markets Debt 2023 Index	BSEMN
Nasdaq BulletShares [®] USD Emerging Markets Debt 2024 Index	BSEMO

Index Information and Data Dissemination

Data Vendors

Daily Index levels are available from major quote vendors and at www.InvescoIndexing.com.

FTP

Daily constituent data and Index level data are available via the Invesco Indexing secure FTP site for Index subscribers. Please contact Invesco Indexing customer service at IndexSupport@invesco.com for more information.

File Types

The Invesco Indexing secure FTP site for Index subscribers will distribute the standard overnight Index files from the Calculator. These include:

File Description	File Extension
Index Levels	yyyymmdd_ticker_VFI2EOD_01.txt
Constituent Details	yyyymmdd_ticker_WFI2EOD_01.txt
Constituent Details Pro-forma	yyyymmdd_ticker_PROFI_01.txt

The data on these files is provided directly by the Calculator, and no descriptive information contained in these files is used by Invesco Indexing at any stage of the Index creation process. In addition, security characteristics are available upon request. The characteristics are created by Invesco Indexing periodically and are updated as necessary. The characteristics data contribute to the creation of the Index or otherwise help to describe the Index constituents. These data include sector, country, region, bond type, aggregate credit rating and developed/emerging classification. Please contact Invesco Indexing customer service at IndexSupport@invesco.com for more information.

Website

Index information is available on the Invesco Indexing website at www.InvescoIndexing.com.

Definitions of Key Terms

Terms used in this document but not otherwise defined are defined in the following table. Definitions, that are marked with a (*) are sourced from Regulation (EU) 2016/1011 (“EU Benchmark Regulation”) Article 3. Definitions, that are marked with a (**) are sourced from IOSCO Principles for Financial Benchmarks².

Term	Definition
Administrator *	‘Administrator’ means a natural or legal person that has control over the provision of a benchmark;
Benchmark *	‘Benchmark’ means any index by reference to which the amount payable under a financial instrument or a financial contract, or the value of a financial instrument, is determined, or an index that is used to measure the performance of an investment fund with the purpose of tracking the return of such index or of defining the asset allocation of a portfolio or of computing the performance fees;
Calculation Agent **	A legal entity with delegated responsibility for determining a Benchmark through the application of a formula or other method of calculating the information or expressions of opinions provided for that purpose, in accordance with the Methodology set out by the Administrator;
Contribution of Input Data *	‘Contribution of input data’ means providing any input data not readily available to an administrator, or to another person for the purposes of passing to an administrator, that is required in connection with the determination of a benchmark, and is provided for that purpose.
Corporate Action	A Corporate Action occurs when there is a change to a company’s capital structure. Unlike Corporate Events, Corporate Actions have a prescribed ex-date. The share price will be subject to an adjustment on the ex-date and Invesco Indexing and/or the calculating agent will adjust the index to counteract the effect that the price change would otherwise have on the index. Examples of corporate actions include rights or entitlement issues, consolidations, stock splits and capital repayments.
Expert Judgment *	‘Expert judgement’ means the exercise of discretion by an administrator or a contributor with respect to the use of data in determining a benchmark, including extrapolating values from prior or related transactions, adjusting values for factors that might influence the quality of data such as market events or impairment of a buyer or seller’s credit quality, and weighting firm bids or offers greater than a particular concluded transaction;
Index*	‘Index’ means any figure: (a) that is published or made available to the public; (b) that is regularly determined: (i) entirely or partially by the application of a formula or any other method of calculation, or by an assessment; and (ii) on the basis of the value of one or more underlying assets or prices, including estimated prices, actual or estimated interest rates, quotes and committed quotes, or other values or surveys;
Input Data *	‘Input data’ means the data in respect of the value of one or more underlying assets, or prices, including estimated prices, quotes, committed quotes or other values, used by an administrator to determine a benchmark;
Material Change to Methodology	In determining whether a change to an Index is material, the following factors shall be taken into account: <ul style="list-style-type: none"> • Economic impact of the change; • Whether the change affects the original purpose of the Index.
Methodology **	The written rules and procedures according to which information is collected and the Benchmark is determined;
Rebalance	The regular process (typically quarterly, semi-annually or annually) in which the eligibility and weights of constituent elements of indexes are reassessed;
Subscriber **	A person or entity that purchases Benchmark determination services from an Administrator;
Transaction Data *	‘Transaction data’ means observable prices, rates, indices or values representing transactions between unaffiliated counterparties in an active market subject to competitive supply and demand forces;

² <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf>

Changes to Index Methodology

The following section has been modified since July 2021:

Index Overview: Index Universe

- Update to exclude certain Chinese securities due to Executive Order 14032

The following section has been modified since December 2020:

Index Overview: Index Universe

- Update to exclude certain Chinese securities due to Executive Order 13959

The information provided is for informational purposes only and should not be construed as an offer to buy or sell any financial instruments, or a recommendation for any security or fund interest. Invesco Indexing LLC is not an investment adviser or fiduciary and makes no representation regarding the advisability of investing in any security or strategy. There can be no assurance that an investment strategy based on the Invesco Indexes will be successful.

Indexes are unmanaged and it is not possible to invest directly in an Index. Exposure to an asset class or trading strategy represented by an Index is only available through investable instruments (if any) based on that Index. Invesco Indexing LLC does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, derivative or other security, financial product or trading strategy that is based on, linked to or seeks to track the performance of any Invesco Indexing LLC Index.

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