



Invesco JGB Index Methodology

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Index Overview

Description

The Invesco JGB Index (the “Index”) is designed to provide exposure to bonds issued by the Japanese government with a term greater than or equal to one year.

Index Universe

The Index Universe includes Japanese yen-denominated sovereign bonds issued by the Japanese government with a maturity greater than or equal to one year. The bonds must have at least ¥100 billion par amount outstanding. Eligible bond types include fixed rate, step-up, callable, puttable, sinkable and amortizing bonds.

The Index Universe explicitly excludes certain special issues, such as floater, convertible, perpetual, private offer, preferred, warrant, inflation-linked bonds and bonds with an irregular schedule of interest payments. Finally, the universe is limited to those securities for which pricing data is available from the Calculator (see Index Calculation and the Role of the Calculation Agent on page 5).

Security Selection

The Index includes all constituents of the Index Universe.

Security Weighting

Index constituents are market value weighted.

All security weighting criteria are applied on the Reference Date of an Index update (see Updates on page 4).

History

The Invesco JGB Index was launched on September 3, 2019. History is available for the Index since its base date of December 31, 2007. The base value of the Index is 100.

Related Indexes

Several other related Invesco fixed income market beta indexes are available. Similar to the Invesco JGB Index, these indexes are market value weighted; however, they differ in their regional and sector coverage. Please visit www.invescoindexing.com/en/indexes/fixed-income to learn more about these related indexes.

Updates

Index Rebalance

The Index is rebalanced each calendar month (“Rebalance Months”). At that time, the set of eligible securities is determined, securities are selected for membership in the Index, and the Index is reweighted. See “Index Overview” on page 3 for more information about security selection and weighting.

Index Key Dates

The key dates are as follows. The Index Review Team (see Governance on page 7) 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	Six business days before the last business day of the month	Data is captured for Index construction
Announcement Date	Three business days before the last business day of the month	Summary of Index rebalance changes are announced to public
Pro-Forma Date	Three 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 ICE Data Indices, LLC. The Calculator evaluates the closing value of the Index, updates the Index at 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 (see Corporate Events on page 6), 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 9).

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.

Corporate Events

The Calculator identifies and adjusts for corporate events based on the following policy.

Corporate Events	Index Adjustments
Accrued Interest and Cash	With the exception of US securitized products (MBS, CMBS, CMO and ABS), accrued interest is calculated assuming next-day settlement. Accrued interest for US securitized products assumes same-day settlement. Cash flows from bond payments that are received during the month are retained in the Index until the end of the month and then are removed as part of the rebalancing. Cash from coupon payments is reinvested at the Tokyo Overnight Average Rate (TONA) while it is held in the Index.
Called Securities	Securities that are announced as called, and for which the amount called meets certain minimum thresholds, are removed from the Index at the next rebalancing provided this occurs on or before the third business day before the last business day of the month. Cash flows from called bonds that are received during the month are retained in the Index until the end of the month and then are removed as part of the rebalancing. Cash from called bonds does not earn any reinvestment income while it is held in the Index.
Default Treatment	Defaulted securities are excluded from the Index at the next rebalancing following the default event, provided this occurs on or before the third business day before the last business day of the month. Securities are considered in default based on their individual legal terms. A rating of "D" by a major rating agency is not a consideration for default status.
No Re-entry Once Removed for Lack of Pricing	If a bond is removed due to lack of pricing that bond will not qualify for entry into the Index at a later date even if adequate pricing subsequently becomes available.

As mentioned above in the Index Calculation and the Role of the Calculation Agent section, the Calculator manages corporate events for this Index using its standard corporate event framework and its divisor index methodology. For additional details, please refer to <https://indices.theice.com>.

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 (*IND10Projected_yyyymmdd.csv*) 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 on global business days and the last calendar day of every month. If the last calendar day of the month falls on a weekend, all prices are rolled from the last business day and accrued interest is calculated for the new settlement date. The Index is not calculated on Global Holidays (defined as weekdays on which WM Company/Reuters does not publish closing FX rates) unless a Global Holiday falls on the last calendar day of the month, in which case prices are updated in all local markets that are open. Prices in all markets that are closed are rolled from the prior business day and accrued interest is calculated for the new settlement date.

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 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. The base currency for the Index is Japanese Yen (JPY).

Return Type	Ticker
Total Return (JPY)	IIJGBY

Index Information and Data Dissemination

Data Vendors

Daily Index levels for all return types 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	IndexIND_yyyymmdd.csv
Constituent Details	IND10_yyyymmdd.csv
Constituent Details Pro-forma	IND10Projected_yyyymmdd.csv

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 Benchmarks¹.

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: • 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;

¹ <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf>

Changes to Index Methodology

The following section has been modified and is effective with the April 2021 rebalance:

Updates: Index Key Dates

- Reference Date changed from 15th calendar day of the month to the sixth business day prior to the last business day of the month
- Announcement Date changed from four business days before the last business day of the month to three business days before the last business day of the month

The following section has been modified and is effective December 31, 2021:

Corporate Events

- Cash from coupon payments is reinvested at the Tokyo Overnight Average Rate (TONA)

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.

The Invesco JGB Index (the "Index") is calculated by ICE Data Indices, LLC or its affiliates ("ICE Data").

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