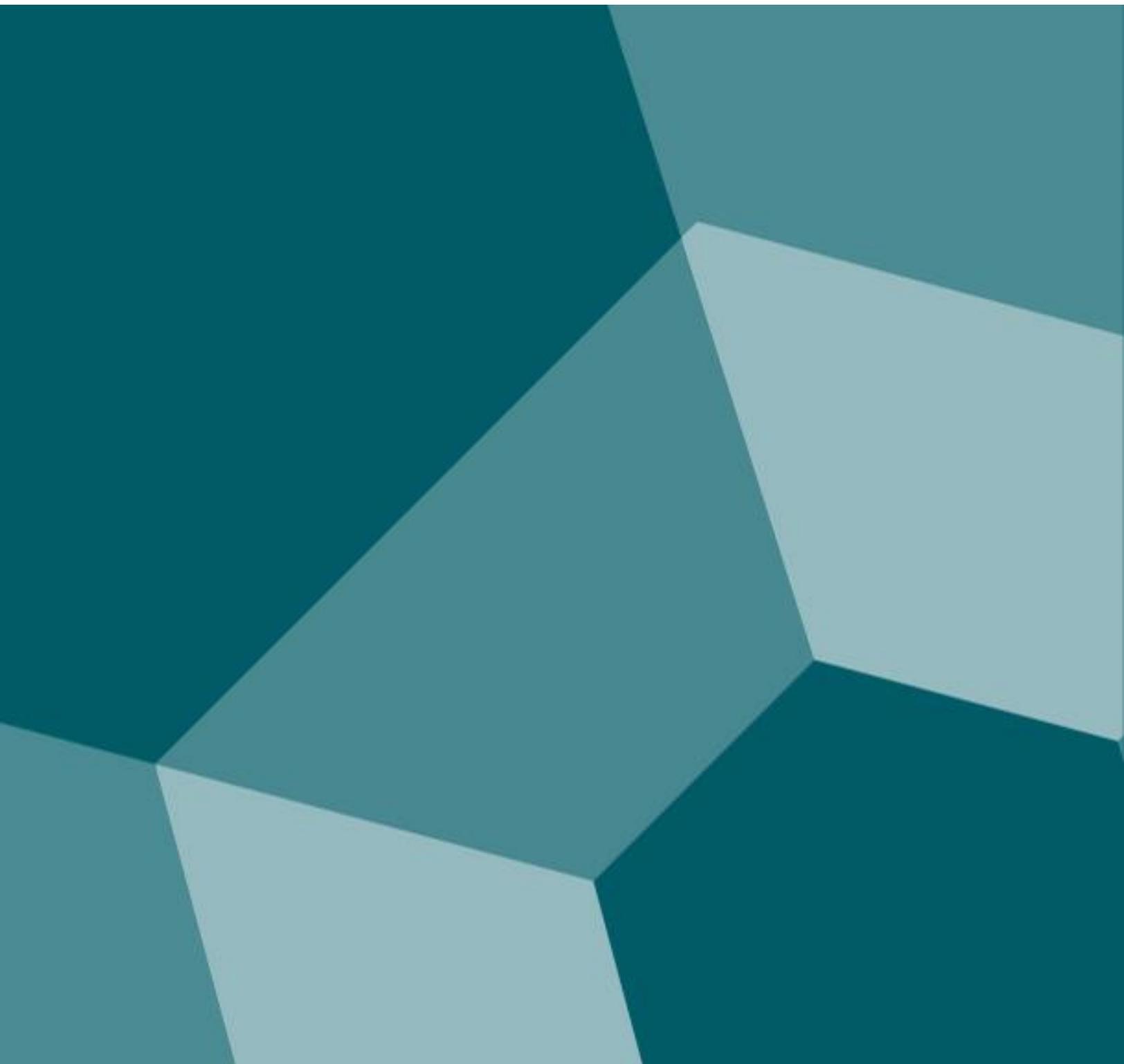


FTSE Fixed Income Index Guide



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FTSE Russell: A global index leader

FTSE Russell is a leading global index provider creating and managing a wide range of indices, data and analytic solutions to meet client needs across asset classes, style and strategies. FTSE Russell indices offer a true picture of global markets, incorporating specialist knowledge gained from developing local benchmarks around the world. FTSE Russell index expertise and products are used extensively by institutional and retail investors across the world.

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1. Introduction

The purpose of this publication is to familiarize the reader with the global fixed income indices that joined the FTSE Russell¹ index family as part of the Citi acquisition in August 2017. It is intended to explain how they are constructed, and highlight why they can be a measure of the performance of fixed income markets across security types and geographies.

The flagship global indices that are covered in this publication are listed in the below table. Related indices and sub-indices are also discussed in subsequent chapters.²

FTSE fixed income indices

Global	FTSE World Government Bond Index (WGBI)
	FTSE World Broad Investment-Grade Bond Index (WorldBIG®)
	FTSE World Inflation-Linked Securities Index (WorldILSI)
	FTSE Eurobond Indices
	FTSE World Money Market Indices (WMMI)
Americas	FTSE US Broad Investment-Grade Bond Index (USBIG®)
	FTSE US Mortgage Index
	FTSE US Municipal Tax-Exempt Investment-Grade Bond Index
	FTSE US High-Yield Market Index
	FTSE US Treasury STRIPS Index
	FTSE US Large Pension Fund Baseline Bond Index (USLPF)
	FTSE Latin American Government Bond Index (LATAMGBI)
Europe, Middle East, and Africa	FTSE Euro Broad Investment-Grade Bond Index (EuroBIG®)
	FTSE Pan-European Broad Investment-Grade Bond Index (PEUBIG)
	FTSE Pan-European High-Yield Bond Index
	FTSE Central, Eastern Europe, Middle East, and Africa Government Bond Index (CEEMEAGBI)
	FTSE Middle East and North Africa Broad Bond Index (MENABBI)
Asia Pacific and Japan	FTSE Asian Government Bond Index (AGBI)
	FTSE Asian Government Bond Index – Capped (AGBI-Capped)
	FTSE Asian Broad Bond Index (ABBI)
	FTSE Chinese (Onshore CNY) Broad Bond Index (CNYBBI)
	FTSE Chinese Government and Policy Bank Bond Index (CNGPBI)

¹ FTSE Russell is the trading name of FTSE International Limited, Frank Russell Company, FTSE Global Debt Capital Markets Limited (and its subsidiaries FTSE Global Debt Capital Markets Inc. and FTSE Fixed Income Europe Limited), FTSE Fixed Income LLC, The Yield Book Inc and Beyond Ratings.

² As part of the transition to FTSE Russell, the names of these indices have changed from “Citi [Name of Index]” to “FTSE [Name of Index]”. The index naming conventions, and common abbreviations and acronyms, such as WGBI, will continue to be used.

	FTSE Dim Sum (Offshore CNY) Bond Index
	FTSE Australian Broad Investment-Grade Bond Index (AusBIG®)
	FTSE Japanese Broad Investment-Grade Bond Index (JPBIG)
	FTSE Japanese Broad Bond Index (JPBBI)
Emerging Markets	FTSE Emerging Markets Government Bond Index (EMGBI)
	FTSE Emerging Markets Government Bond Index – Capped (EMGBI-Capped)
	FTSE Emerging Markets Inflation-Linked Securities Index (EMILSI)
	FTSE Emerging Markets US Dollar Government Bond Index (EMUSDGBI)
	FTSE Emerging Markets Broad Bond Index (EMUSDBBI)
Thematic	FTSE Fixed Income Sustainable Finance Indices
	FTSE Debt Capacity Government Bond Index (DCWGBI)
	FTSE Time-Weighted US Fallen Angel Bond Index
	FTSE IdealRatings Broad US Dollar Sukuk Index
	FTSE Pension Liability Index

Local and domestic focused benchmarks

In addition to the benchmarks described in this publication, FTSE Russell's fixed income index coverage also includes several widely used local and domestic focused index series. Other major fixed income index series offered by FTSE Russell include:

- FTSE Canada Bond Indices– the leading benchmark family for fixed income indices in Canada, including the flagship FTSE Canada Universe Bond Index. The FTSE Canada Bond Indices are used as benchmarks for approximately US \$2 trillion in assets globally, invested across ETFs, mutual funds and segregated mandates.
- FTSE Actuaries UK Gilt Index Series– a comprehensive family of indices and analytics covering the conventional Gilt and index-linked Gilt markets. The indices are the premier benchmarks for eligible British Government Securities.
- FTSE Eurozone Bond Indices– a series of indices measuring the performance of the largest and most widely-traded securities in the eurozone government and covered bond markets.
- FTSE / JSE Fixed Income Index Series – a series of indices designed to represent the performance of domestically-issued South African government, state-owned and corporate bonds. The indices are produced in partnership with the Johannesburg Stock Exchange, who FTSE Russell assumed benchmark administrator responsibilities from in 2020.

This publication does not pertain to the local and domestic focused benchmarks described above.³ For more information specific to these indices, please visit the website at www.ftserussell.com.

³ This publication also does not cover: FTSE ORB Index Series, FTSE NSE Kenya Shilling Government Bond Index Series, and FTSE-BOCHK Offshore RMB Bond Index Series.

FTSE Russell

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Disclaimer

FTSE Russell hereby notifies users of the index series that it is possible that circumstances, including external events beyond the control of FTSE Russell, may necessitate changes to, or the cessation of, the index series and therefore, any financial contracts or other financial instruments that reference the index series or investment funds which use the index series to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the index.

Index users who choose to follow this index series or to buy products that claim to follow this index series should assess the merits of the index's rules-based methodology and take independent investment advice before investing their own or client funds. No liability whether as a result of negligence or otherwise is accepted by FTSE Russell for any losses, damages, claims and expenses suffered by any person as a result of:

- any reliance on these Ground Rules, and/or
- any inaccuracies in these Ground Rules, and/or
- any non-application or misapplication of the policies or procedures described in these Ground Rules, and/or
- any inaccuracies in the compilation of the index or any constituent data.

IOSCO

FTSE Russell acknowledges the importance of integrity of benchmarks in financial markets and is committed to operating its business in accordance with the IOSCO Principles and other relevant industry standards.

2. Management Responsibilities

Management Responsibilities

FTSE Fixed Income LLC (FTSE FI) is the benchmark administrator for the indices described in this methodology.⁴

FTSE Fixed Income LLC is a benchmark administrator and provides benchmarks in line with the third country transitional provisions contained within Article 51(5) of the European Benchmark Regulation and the UK Benchmark Regulation

FTSE FI is responsible for the daily calculation, production and operation of the index series and will:

- maintain records of the index weightings of all constituents;
- make changes to the constituents and their weightings in accordance with the Ground Rules;
- carry out the periodic index reviews of the index series and apply the changes resulting from the reviews as required by the Ground Rules;
- publish changes to the constituent weightings resulting from their ongoing maintenance and the periodic reviews;
- disseminate the indices.

External advisory committees

Regional fixed income advisory committees comprised of senior market practitioners in the US, EMEA and Asia Pacific who are representative of the appropriate sectors of the investment community are convened on a regular basis to provide feedback that is used to evolve index methodologies. Any proposals for significant amendments to the index methodologies will be subject to consultation with the FTSE Russell advisory committees and other stakeholders as appropriate. Any rule change decisions are ultimately taken by FTSE Russell.

The Terms of Reference of the FTSE Russell external advisory committees are set out on the FTSE Russell website and can be accessed using the following link:

[Terms of Reference](#)

Amendments to the index methodology

The FTSE Fixed Income Guide is subject to regular review (at least once a year) by FTSE Russell to ensure that it continues to best reflect the aims of each index. Any proposals for significant amendments to an index methodology will be subject to consultation with FTSE Russell advisory committees and other stakeholders if appropriate. The feedback from these consultations will be considered by the FTSE Russell Index Governance Board before approval is granted.

As provided for in the Statement of Principles for FTSE Fixed Income Indices, where FTSE Russell determines that the FTSE Fixed Income Guide is silent or does not specifically and unambiguously apply to the subject matter of any decision, any decision shall be based as far as practical on the Statement of Principles. After making any such determination, FTSE Russell shall advise the market of its decision at the earliest opportunity. Any such

⁴ The term administrator is used in this document in the same sense as it is defined in [Regulation \(EU\) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds](#) (the European Benchmark Regulation). FTSE Fixed Income LLC administers the Index Series in line with the third country transitional provisions contained within the Article 51(5) of that regulation. The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019 (the UK Benchmark Regulation).

treatment will not be considered as an exception or change to FTSE Fixed Income Guide, or to set a precedent for future action, but FTSE Russell will consider whether the FTSE Fixed Income Guide should subsequently be updated to provide greater clarity.

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3. FTSE Russell Index Policies

FTSE Russell Index Policies

This methodology should be read in conjunction with the following policy documents which can be accessed using the links below:

Queries and Complaints

FTSE Russell's complaints procedure can be accessed using the following link:

[Benchmark Determination Complaints Handling Policy.pdf](#)

Statement of Principles for FTSE Fixed Income Indices (the Statement of Principles)

Indices need to keep abreast of changing markets and the Ground Rules cannot anticipate every eventuality. Where the Ground Rules do not fully cover a specific event or development, FTSE Russell will determine the appropriate treatment by reference to the Statement of Principles for FTSE Fixed Income Indices which summarizes the ethos underlying FTSE Russell's approach to index construction. The Statement of Principles is reviewed annually and any changes proposed by FTSE Russell are presented to the FTSE Russell Policy Advisory Board for discussion before approval by the FTSE Russell Index Governance Board.

The Statement of Principles for Fixed Income Indices can be accessed using the following link:

[Statement of Principles Fixed Income Indices.pdf](#)

Recalculation Policy and Guidelines

The Recalculation Policy and Guidelines for Fixed Income Indices document is available from the FTSE Russell website using the link below or by contacting info@ftserussell.com.

[Fixed Income Recalculation Policy and Guidelines.pdf](#)

Policy for Benchmark Methodology Changes

Details of FTSE Russell's policy for making benchmark methodology changes can be accessed using the following link:

[Policy for Benchmark Methodology Changes.pdf](#)

To oversee its indices, FTSE Russell employs a governance framework that encompasses product, service and technology governance. The framework incorporates the London Stock Exchange Group's three lines of defense risk management framework and is designed to meet the requirements of the IOSCO Principles for Financial Benchmarks⁵, the European benchmark regulation⁶ and the UK benchmark regulation⁷. The FTSE Russell Governance Framework can be accessed using the following link:

[FTSE Russell Governance Framework.pdf](#)

⁵ IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013

⁶ Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds

⁷ The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019

4. Index Methodology

Index eligibility criteria and data inputs

Maturity

Most FTSE fixed income indices have a minimum maturity of one year; however, versions of flagship FTSE fixed income indices that hold bonds to maturity are also published. Unless otherwise noted in an index's methodology, time to maturity both for purposes of index inclusion and maturity sector or sub-index composition is based on the remaining average life of a security.

The maturity sector buckets are defined by including all underlying issues with a remaining average life at least equal to the lower bound, but less than the upper bound. For example, the one- to three-year sector of the FTSE World Government Bond Index (WGBI) includes all securities in the WGBI with a remaining average life of at least one year, but less than three years. The set of bonds is then held constant for purposes of calculating the return during a given month, even if the average life drops below the lower bound of the maturity bucket.

Sector classification

The FTSE fixed income indices detailed in this guide utilize two proprietary industry/asset classification codes: Global Industry Code (GLIC) and Corporate Bond Sector (COBS) code.

Figure 2. Global Industry Code (GLIC)

GLIC	Description
SVGN	Sovereign
SGTD	Sovereign Guaranteed
SGSP	Sovereign Government Sponsored
RGTD	Regional Government Guaranteed
RGSP	Regional Government-Sponsored
RGOV	Regional Government
MBS	Collateralized – Mortgage
ABS	Collateralized – Asset-backed
PFBF	Collateralized – Covered
IMAN	Industrial – Manufacturing
ISRV	Industrial – Service
ICON	Industrial – Consumer
IEGY	Industrial - Energy
ITRN	Industrial – Transportation
IOTH	Industrial – Other

UELC	Utility – Electric
UGAS	Utility – Gas
UTEL	Utility – Telecom
UOTH	Utility – Other
FBNK	Finance – Bank
FIND	Finance – Independent
FINS	Finance – Insurance
FOTH	Finance – Other

Figure 3. Corporate Bond Sector (COBS) code

Category	COBS	Description
Government / Government Sponsored	DSOV	Domestic Sovereign
	FSOV	Foreign Sovereign
	RGOV	Regional Government
	AGEN	Agency
	SPRA	Supranational
Collateralized	MTGE	Mortgage
	CARD	Credit Cards
	CARS	Cars
	STRA	Stranded Asset
	RMTR	Residential Mortgage Master Trust
	EQLS	Securitized Equipment Lease
	WBUS	Whole Business Securitization
	ABSO	ABS – Other
	PFFF	Covered – Jumbo Pfandbrief Offentliche
	PFHY	Covered – Jumbo Pfandbrief Hypotheken
	PFOF	Covered –French
	PFCE	Covered – Spanish
	PFOT	Covered - Other

Category	COBS	Description
Industrial – Manufacturing	AERO	Aerospace
	AUTO	Auto Manufacturing
	VEHL	Vehicle Parts
	BLDG	Building Materials
	HOME	Home Builders
	CSTR	Construction Business
	CHEM	Chemicals
	CONG	Capital Goods
	INFO	Information & Data Technology
	TRON	Electronics
	MACH	Machinery
	METL	Metals / Mining
	PACK	Container / Packaging
	PAPR	Paper & Forest Products
	TEXT	Textiles
Industrial – Service	BCAS	Broadcast / Outdoor
	CBLE	Cable
	SATE	Satellite
	PUBL	Publishing
	GAME	Gaming
	FUNN	Leisure
	LODG	Lodging
	HEAL	Health Care Supply
	HLCF	Health Care Facilities
	PHRM	Pharmaceuticals
	REST	Restaurants
	FDRG	Retail Food & Drug
	RETL	Retail
	ENVS	Environmental Services

Category	COBS	Description
	TWER	Tower
	PDEV	Property / Real Estate Developer
	GTCO	General Trading Company (sogo shosha)
	OTHS	Other Service
Industrial – Consumer	CONS	Consumer Products
	TOBC	Tobacco
	FOOD	Food Processors
	BEVG	Beverage / Bottling
	FISH	Fishery
Industrial – Energy	SOGP	Secondary Oil & Gas Producers
	OILE	Oil Equipment
	OILS	Oil Service
	OILR	Oil Refining & Marketing
	OILI	Integrated Oil
	PPAN	Retail Propane Distributors
Industrial – Transportation	AIRL	Airlines
	RAIL	Railroads
	OTHT	Other Transportation
Industrial – Other	OTHI	Other Industrial
Utility – Gas	GASL	Gas Utility – Local Distributors
Utility – Electric	ELEC	Electric Utility
Utility – Other	PWER	Power
	WATR	Water
	OTHU	Other Utility
Utility – Telecommunication	BBND	Broadband
	CLEC	Competitive Local Exchange Company
	DIVT	Diversified Telecom
	ISPD	ISP / Data
	PAGE	Paging

Category	COBS	Description
Finance – Bank	BANK	Banks
Finance – Independent	IFIN	Independent Finance
Finance – Insurance	LIFE	Life Insurance
	PCAS	Property & Casualty Insurance
Finance – Other	LEAS	Leasing
	MTGB	Mortgage Banking
	SECS	Securities

FTSE Fixed Income Country Classification

The FTSE Fixed Income Country Classification Framework, which was incorporated into the FTSE fixed income benchmarking process in January 2019, enables the assignment of a “Market Accessibility Level” (2, 1, or 0) for local currency government bond markets and synchronizes the application of objective criteria (market size and credit rating) in index methodologies on a semi-annual review cycle. In March 2021, the FTSE Fixed Income Country Classification Framework was extended to local currency, inflation-linked government bond markets in addition to local currency, fixed-rate government bond markets. Market Accessibility Levels are reviewed semi-annually in March and September and are available for use in both flagship and custom index construction.

The FTSE Fixed Income Country Classification Framework allows for the publication of a Watch List of local currency government bond markets that are being considered for potential reclassification of their Market Accessibility Level for either failing to meet the accessibility thresholds of their existing level or are on a trajectory to meeting the thresholds for a higher level. Inclusion of a market on the Watch List signals FTSE Russell’s intent to engage with governments, central banks and regulators to address specific feedback from investors on the fulfilment of the criteria for the proposed accessibility level. It also provides transparency for index users into the future evolution of FTSE Russell benchmarks.

Following the semi-annual reviews of Market Accessibility Levels, any reclassification decisions and Watch List changes are formally communicated to the market, along with any resulting index changes. Any entry and exit of local markets due to changes in market size and upgrade of credit rating are announced at the same time. The notice period between announcement and implementation of index changes allows for sufficient lead time for index users. Downgraded markets that no longer meet the stated minimum credit ratings exit indices at the next monthly rebalance.

For full details on the process, please see [FTSE Fixed Income Country Classification Process](#).

Issuer country assignment

A nationality or country is assigned for each security tracked by the FTSE fixed income indices to represent the issuer’s country of risk.⁸ In general, the country assignment of a bond is based on the risk country of the ultimate borrower. In determining country of risk assignments for bonds in its fixed income indices, FTSE Russell will primarily consider where the largest source of revenue, operations and / or cash flows by the borrower is generated; the country where a guarantee originates from in the case of borrowers backed by government or parent corporate entities; and the country where a borrower has its headquarters. Additionally, FTSE Russell may consider the country of legal domicile of the borrower and / or the country where a company’s equity is listed and traded.

An overseas operating subsidiary assumes the nationality of its parent if it is guaranteed by its parent; otherwise, it retains its own nationality.

Bonds issued by an offshore special purpose entity or financing vehicle typically assume the nationality of the ultimate borrower company regardless of whether there is an explicit guarantee of debt repayment by the ultimate borrower or parent company.

⁸ This attribute is used to determine eligibility in certain indices such as the FTSE Emerging Markets Broad Bond Index (EMUSDBBI) and the FTSE High Yield Market Index.

FTSE fixed income emerging markets designations

For purposes of inclusion to FTSE emerging markets hard and local currency fixed income indices, a country is considered to be emerging if it is defined by the International Monetary Fund (IMF)⁹ to be among “emerging and developing economies” or it is defined by the World Bank¹⁰ to be among “low-income economies”, “lower-middle-income economies” or “upper-middle-income” economies. Updates to the fixed income emerging markets country list are made on an annual basis each September based on updated data from the IMF and World Bank.

Index credit quality

An index credit quality is assigned to each index bond as of the index profile fixing date. The quality is first mapped to the Standard & Poor’s Financial Services LLC (“S&P”) rating. If a bond is not rated by S&P but it is rated by Moody’s Investors Service, Inc. (“Moody’s”), the S&P equivalent of the Moody’s rating is assigned to the index quality. If a bond is not rated by S&P or Moody’s, it is not assigned an index credit quality. If a bond is rated as investment-grade by one rating agency and high-yield by the other, the S&P equivalent of the investment-grade rating is assigned to the index quality. These ratings remain unchanged for the entire performance month.

For certain indices, an implied rating may be used. If an individual issue is not rated by S&P or Moody’s but its issuer has a S&P and/or Moody’s rating, the issuer’s rating is assigned to the issue as its implied rating as determined by the method stated above.

Defaults

When an issuer defaults, or is assigned a D rating by S&P, regardless of whether that issuer has filed for bankruptcy protection, or enters into Chapter 7 or Chapter 11 bankruptcy protection in the US (or equivalent in its local market), its bonds remain in the index until the end of the month. The bonds will be included in the calculation of the current month’s average profile statistics of the index. The returns are calculated without coupon payment or accrued interest.

In the event that one or more foreign currency government bonds fail to make a coupon payment, all foreign currency government bonds from that issuer will be retained in the index and continue to reflect updated pricing in index return calculations to the extent that it is available from the index pricing provider. In the event of a subsequent debt restructuring, FTSE Russell will reflect the economic reality of the transaction for bond investors in the index calculations to the extent it is feasible. Any foreign currency government bonds that are newly issued as part of a debt restructuring will be required to meet relevant index eligibility criteria to be added to the index with timing of their inclusion based on index rebalancing rules. In the event that a defaulted foreign currency government bond market is no longer functioning and FTSE Russell deems that a market disruption event has taken place, it will reference its FTSE Fixed Income Statement of Principles to determine the appropriate index treatment for the impacted securities.

⁹ <http://www.imf.org/external/ns/cs.aspx?id=28>

¹⁰ <http://data.worldbank.org/about/country-classifications/>

Terms and conditions data

The primary source for terms and conditions data is Refinitiv, unless otherwise noted in the details of a specific index section.

Exchange rates

The closing Refinitiv Spot Rates and the Refinitiv Forward Rates, provided by Refinitiv, are used. Refinitiv takes several snapshots at regular intervals centered on the fixing time of 4:00 p.m. London time and selects the median rate for each currency. All rates are mid-market quotations and appear on Refinitiv.

Index rebalancing rules

Index profile – monthly rebalancing

To facilitate monthly rebalancing by index users, a profile fixing date is set ahead of each month-end to freeze the index constituents. Index constituents remain the same for the following calendar month, and returns are calculated based on the index composition and their beginning of the month market value weights.

Fixing dates

The annual schedule of fixing dates is made available on the website at www.yieldbook.com/m/indices. Index fixing dates provide a clear reference point for index users to know in advance of any changes to the composition of the indices for the upcoming month. On each index fixing date, publicly available securities information is used to determine index eligibility and indicative values for the following month's index profile. A preliminary profile setting out the anticipated composition of each index is announced via the website one (1) US business day following the index fixing date. Between announcement of the preliminary profile and calendar month-end, market activities will continue to be tracked and issues that are called, tendered, exchanged or defaulted will be removed.

This process enables those tracking these indices to anticipate changes to index composition, providing sufficient clarity and time to facilitate consequent portfolio rebalancing.

Index rules stipulate that there must be a minimum of four (4) business days following each index fixing date and before calendar month-end in all of the following business regions: US, UK, Eurozone, Japan, and Australia. Index fixing dates are subject to change if unforeseen circumstances arise affecting these business days.

Issue eligibility

For an issue to be eligible for inclusion in an index, all information on the issue must be publicly available on or before the fixing date, and the first settlement and interest accrual date of the issue must be on or before the end of the month. While Treasury auctions may be announced prior to the fixing date, the results must be final by the fixing date in order to be considered for inclusion.

At the same time, bonds that no longer meet the amount outstanding, rating, maturity, or other eligibility criteria are removed from the index.

Daily preview reporting

Daily preview reporting is available for a range of flagship government, broad-market and corporate index universes to provide index users with an estimate of the compositional changes they can expect for the next month's profile. Daily preview files consist of a dynamic set of bonds that changes intra-month on a daily basis, to reflect the latest information regarding the eligibility of bonds for the next index rebalance. The market value of each security in the daily preview file is updated to reflect changes in price, accrued interest and amount outstanding. Changes to bond attributes, such as credit rating and sector classifications are also reflected in these

reports. Up to and including on fixing day, all index changes are indicative and subject to change until the final issue level file is published at month-end.

Intra-month, the composition of daily preview files reflects membership changes including:

- **Adds:** newly issued securities, bonds that are newly index eligible due to changes in attributes, such as credit rating, classification and amount outstanding;
- **Deletes:** bonds that no longer qualify for the index due to calls, downgrades, or other changes in index eligible criteria, and bonds that no longer meet the minimum maturity for the index at month-end.

Index pricing methodology and analytics

Reliable pricing of each security is necessary to ensure reliable index values and returns. A combination of third-party pricing providers that vary based on asset class are used to price the indices. A robust vendor selection process is applied to pricing inputs to ensure that the quality of valuations within the indices remains high. This selection process includes both a qualitative review of the pricing methodology and operational capabilities of the provider, and a quantitative review of coverage metrics, historical pricing data and statistical analysis.

The remainder of this section provides further details on specific sources and conventions used within the FTSE fixed income indices.

Index price sources and snap times

Figure 4 shows the local market pricing source and snap time used for the pricing of the fixed income indices. Prices are bid-side with the exception of Mexican government bonds for which mid-prices are used.

Figure 4. Pricing sources and snap times

Currency Denomination	Security Type	Source	Snap Time
Americas			
Argentine peso (ARS)	Government	Refinitiv	4:00 p.m. (New York)
Brazilian Real (BRL)	Government	Refinitiv	4:00 p.m. (New York)
Canadian Dollar (CAD)	Government	Refinitiv	4:00 p.m. (New York)
Chilean Peso (CLP)	Government	Refinitiv	4:00 p.m. (New York)
Colombian Peso (COP)	Government	Refinitiv	4:00 p.m. (New York)
Costa Rican Colon (CRC)	Government	Refinitiv	4:00 p.m. (New York)
Dominican Republic Peso (DOP)	Government	Refinitiv	4:00 p.m. (New York)
Mexican Peso (MXN)	Government	Proveedor Integral de Precios S.A. de C.V.	2:00 p.m. (Mexico City)
Peruvian Nuevo Sol (PEN)	Government	Refinitiv	4:00 p.m. (New York)
Uruguayan peso (UGU)	Government	Refinitiv	4:00 p.m. (New York)
US Dollar (USD)	Treasury	Refinitiv	4:00 p.m. (New York)
US Dollar (USD)	Foreign Government	Refinitiv	4:00 p.m. (New York)
US Dollar (USD)	Mortgage	Refinitiv	4:00 p.m. (New York)

Currency Denomination	Security Type	Source	Snap Time
Americas			
US Dollar (USD)	Credit ¹¹	Refinitiv	4:00 p.m. (New York)
US Dollar (USD)	High-Yield Corporate	IDC	4:00 p.m. (New York)
US Dollar (USD)	Municipal	Refinitiv	4:00 p.m. (New York)

Europe, Middle East, and Africa			
Euro (EUR)	Government	Refinitiv	4:15 p.m. (London)
Euro (EUR)	Collateralized/Corporate	Refinitiv	4:15 p.m. (London)
Czech Koruna (CZK)	Government	Refinitiv	4:15 p.m. (London)
Danish Krone (DKK)	Government	Refinitiv	4:15 p.m. (London)
Egyptian Pound (EGP)	Government	Refinitiv	4:15 p.m. (London)
Ghana Cedi (GHS)	Government	Refinitiv	4:15 p.m. (London)
Hungarian Forint (HUF)	Government	Refinitiv	4:15 p.m. (London)
Israeli New Shekel (ILS)	Government	Tel Aviv Stock Exchange	5:25 p.m. (Tel Aviv)
Kenyan Shilling (KES)	Government	Refinitiv	4:15 p.m. (London)
Moroccan Dirham (MAD)	Government	Refinitiv	4:15 p.m. (London)
Nigerian Naira (NGN)	Government	Refinitiv	6:00 p.m. (London)
Norwegian Krone (NOK)	Government	Refinitiv	4:15 p.m. (London)
Polish Zloty (POL)	Government	Bond Spot	4:30 p.m. (Warsaw)
Qatari Riyal (QAR)	Government	Refinitiv	4:15 p.m. (London)
Romanian Leu (RON)	Government	Refinitiv	4:15 p.m. (London)
Russian Ruble (RUB)	Government	Refinitiv	4:15 p.m. (London)
Saudi Arabian Riyal (SAR)	Government	Refinitiv	12:00 p.m. (London)
Serbian Dinar (RSD)	Government	Refinitiv	4:15 p.m. (London)
South African Rand (ZAR)	Government	Johannesburg Stock Exchange	5:00 pm (Johannesburg)
Swedish Krona (SEK)	Government	Refinitiv	4:15 p.m. (London)
Swiss Franc (CHF)	Government	Refinitiv	4:15 p.m. (London)

¹¹ For the issues with a country of issuance in Asia, the snap time will be 6:00 p.m. (Tokyo). For the issues with a country of issuance in Europe, Middle East and Africa, the snap time will be 4:15 p.m. (London).

Europe, Middle East, and Africa

Swiss Franc (CHF)	Corporate	Refinitiv	4:15 p.m. (London)
Turkish Lira (TRY)	Government	Refinitiv	2:00 p.m. (London)
Ukrainian Hryvnia (UAH)	Government	Refinitiv	4:15 p.m. (London)
UK Sterling (GBP)	Government	Refinitiv	4:15 p.m. (London)
UK Sterling (GBP)	Corporate	Refinitiv	4:15 p.m. (London)

Asia Pacific and Japan

Australian Dollar (AUD)	Government	Refinitiv	4:00 p.m. (Tokyo)
Australian Dollar (AUD)	Credit	Refinitiv	6:00 p.m. (Tokyo)
Bangladesh Taka (BDT)	Government	Refinitiv	6:00 p.m. (Tokyo)
Chinese Yuan (CNY)	Government	Refinitiv	6:00 p.m. (Tokyo)
Chinese Yuan (CNY)	Credit	Refinitiv	6:00 p.m. (Tokyo)
Chinese (Offshore) Yuan (CNH)	Government	Refinitiv	6:00 p.m. (Tokyo)
Chinese (Offshore) Yuan (CNH)	Credit	IDC	4:45 p.m. (Hong Kong)
Hong Kong Dollar (HKD)	Government	Refinitiv	6:00 p.m. (Tokyo)
Indian Rupee (INR)	Government	Refinitiv	6:00 p.m. (Tokyo)
Indonesian Rupiah (IDR)	Government	Refinitiv	6:00 p.m. (Tokyo)
Japanese Yen (JPY)	Government	Refinitiv	3:00 p.m. (Tokyo)
Japanese Yen (JPY)	Credit	Refinitiv	6:00 p.m. (Tokyo)
Japanese Yen (JPY)	Mortgage	Refinitiv	10:00 p.m. (Tokyo)
Kazakhstani Tenge (KZT)	Government	Refinitiv	4:15 p.m. (London)
Malaysian Ringgit (MYR)	Government	Refinitiv	6:00 p.m. (Tokyo)
New Zealand Dollar (NZD)	Government	Refinitiv	4:00 p.m. (Tokyo)
Pakistani Rupee (PKR)	Government	Refinitiv	6:00 p.m. (Tokyo)
Philippine Peso (PHP)	Government	Refinitiv	6:00 p.m. (Tokyo)
Singapore Dollar (SGD)	Government	Monetary Authority of Singapore	4:30 p.m. (Singapore)
South Korean Won (KRW)	Government	Refinitiv	3:30 p.m. (Seoul)
Sri Lanka Rupee (LKR)	Government	Refinitiv	6:00 p.m. (Tokyo)
Taiwan Dollar (TWD)	Government	Refinitiv	3:00 p.m. (Tokyo)

Europe, Middle East, and Africa

Thai Baht (THB)	Government	Thai Bond Market Association	4:30 p.m. (Bangkok)
Vietnamese Dong (VND)	Government	Refinitiv	6:00 p.m. (Tokyo)

Verification and price challenges

Statistical techniques are used to identify pricing anomalies based on day-over-day changes and comparisons across peer groups by maturity, asset type, etc. Any price challenges from index users and possible outliers from the verification process are reviewed with third-party pricing providers. In the event that a price challenge is not able to be resolved in a timely manner, FTSE Russell may exercise expert judgement and roll prices from the previous day. Any exercise of expert judgement is recorded.

Holiday calendars

The indices are calculated Monday through Friday except Christmas Day (observed) and New Year's Day (observed). Each local market will observe its own holiday calendar: if a local market is on holiday, the closing prices used for that day will be the closing prices from the previous day. For example, USD-denominated indices such as the US Broad Investment-Grade Bond Index and Emerging Markets US Dollar Government Bond Index follow the holiday calendar applicable to New York. On any day where the US observes a holiday, the closing prices used for these indices are the prices from the previous available day.

Eurozone countries are considered as a single bloc and they use the Eurex Exchange in place of the local market calendars to determine holidays.¹² As such, the closing prices for EUR-denominated securities on any holiday under the Eurex Exchange holiday calendar are the previously available closing prices.

Settlement

For daily calculations, it is assumed that indices settle on a same-day basis except if the last business day of the month is not the last calendar day of the month; then settlement is on the last calendar day of the month. The last business day of the month is based on the local market holiday calendar. Monthly holding periods, therefore, are exactly one calendar month. For example, the January return period would run from the close on December 31 to the close on January 31, regardless of the last business day.

FTSE fixed income index analytics

Index users rely on single security analytics to assess the risk profile of their investments, provide insights into the behavior of the fixed income markets and drive their investment decisions. FTSE fixed income indices rely on analytics provided by The Yield Book Inc., a leading analytics platform with 30 years of experience in providing single security, risk and performance data for fixed income. While some calculations are relatively straightforward in nature, others rely on sophisticated models, which are rigorously tested by market participants who provide feedback into their evolution and development. A description of the major types of analytics calculated for FTSE fixed income indices can be found below. For more details on their calculations, please see the [Glossary of Terms](#).

Duration generally represents the sensitivity in price of a security to changes in the interest rate environment. FTSE Russell publishes a number of duration measures, including effective duration, modified duration and Macaulay duration. The most widely used measure, effective duration, is a measure of sensitivity to yield for bonds with optionality, such as callable bonds and agency mortgages with prepayment optionality.

¹² Prior to June 2020, Eurozone countries referenced the holiday calendar for the European Central Bank's Trans-European Automated Real Time Gross Settlement Express Transfer (TARGET2) calendar.

Spread metrics provide investors with a relative measure for the riskiness of a fixed income instrument and are often quoted to a comparable “risk-free” asset, such as a Treasury bond or curve. The most commonly used spread metric, Option Adjusted Spread (OAS), accounts for embedded optionality in a bond and the variability of future cash flows. FTSE Russell also publishes Gross Spread, which compares the yield of a bond to the interpolated yield of two Treasury bonds at the same weighted average life point.

Yield represents the expected return of a security given a certain set of assumptions. Yield to Maturity is computed as the single yield which equates the sum of the discounted expected cash flows to the current price of the bond. Since it is not guaranteed that an investor will be able to hold a bond to its maturity date, Yield to Worst is calculated to quantify the lowest yield that could be realized by an investor given its optionality.

Model-driven analytics, such as those calculated for the FTSE Mortgage Index, utilize prepayment models maintained by the Yield Book. In addition to the incorporation of these models into standard risk measures, such as duration, spread and yield, these models also produce asset-class specific measures, such as projected prepayment rates for agency MBS.

For further information about The Yield Book, please visit www.yieldbook.com

Index return calculations and weighting

Total returns are computed on the assumption that each security is purchased at the beginning of the period and sold at the end of the period. An issue’s total rate of return is the percentage change in its total value over the measurement period. The components of total return for each security are price change, principal payments, and accrued interest. The total returns are market capitalization weighted using the security’s beginning-of-period market value (see Figure 5). In the case of multi-currency or non-base indices, total return also includes currency movement (see Figure 6).

Figure 5. Total rate of return calculation methodology

Beginning-of-Period Value
(Beginning Price + Beginning Accrued) x Beginning Par Amount Outstanding

End-of-Period Value
[(Ending Price + Ending Accrued) x (Beginning Par Amount Outstanding - Principal Payments)] +
Coupon Payments + Principal Payments

Total Rate of Return (%)
$$\left[\left(\frac{\text{End-of-Period Value}}{\text{Beginning-of-Period Value}} \right) - 1 \right] \times 100$$

A note on precision: Returns are computed to at least six decimal places but reported to a maximum of five. In addition, owing to rounding errors inherent in computer floating-point arithmetic, the last digit in any reported value may sometimes be off by one from its true value.

Figure 6. Total rate of return calculation methodology for base currency returns, unhedged

Total Rate of Return (%)

$$\left\{ \left[1 + \left(\frac{\text{Local Currency Return}}{100} \right) \right] \times \left(\frac{\text{End-of-Month Spot Rate}}{\text{Beginning-of-Month Spot Rate}} \right) - 1 \right\} \times 100$$

Spot rates are quoted as base currency per unit of foreign currency.

The monthly currency-hedged return is calculated by using a rolling one-month forward exchange contract as a hedging instrument. The face value of the contract is equal to the estimated end-of-month full market value. To calculate this value, the bond's yield is assumed to be unchanged from the beginning of the month. Any known cash flows are then taken into account, such as coupon or principal payments, and interest expected to accrue for the period is also added in. This calculation leaves the intra-month changes in bond prices from yield movements unhedged. Any principal movement resulting from yield change is then settled at end-of-month spot exchange rates. Figure 7 gives an example of the calculation formula from the point of view of a US investor. See Appendix 11.2 for more details on index currency returns and hedging methodology.

Figure 7. Total rate of return calculation methodology, currency hedged

Beginning-of-Period Value

$$\left[(\text{Beginning Price} + \text{Beginning Accrued}) \times \text{Beginning Par Outstanding} \right] \times \left[\left(\frac{\text{Beginning-of-Period}}{\text{Spot Exchange Rate}} \right) \left(\frac{\text{US Dollar}}{\text{Local Currency}} \right) \right]$$

End-of-Period Value

$$\left[\left(\frac{\text{End-of-Period Local Currency Value, Assuming Unchanged Yield}}{\text{Local Currency}} \right) + \left(\frac{\text{Known Intra-Month Cash Flows and Interest Expected to Accrue}}{\text{Local Currency}} \right) \right] \times \left[\left(\frac{\text{Beginning-of-Period One-Month Forward Exchange Rate}}{\text{Local Currency}} \right) \right] + \left[\left(\frac{\text{Change in Market Value of Principal Amount Due to Yield Change}}{\text{Local Currency}} \right) \times \left(\frac{\text{End-of-Period Spot Exchange Rate}}{\text{Local Currency}} \right) \right]$$

This equation holds true only if the spot rates are quoted as base currency per unit of foreign currency.

Access information and related publications

Index data is available on the website (www.yieldbook.com/m/indices), and The Yield Book. For a full list of tickers used to access our benchmarks through third-party providers, see Appendix 1.

Data publication

For the FTSE World Government Bond Index (WGBI), FTSE World Government Bond Index – Japanese Investment Trust (WGBI-JIT), FTSE Debt Capacity World Government Bond Index (DCWGBI), FTSE Asian Government Bond Index (AGBI), and FTSE Australian Broad Investment-Grade Bond Index (AusBIG):

- Daily (except last business day) reports, issue-level and sector-level data: 6:30 p.m. E.T., same day
- Last business day daily and monthly reports, issue-level and sector-level data: 11:45 p.m. E.T., same day

When New York is observing Daylight Saving Time (DST), the daily delivery of WGBI data may be delayed until 7:30 p.m. DST.

For the FTSE Emerging Markets Government Bond Index (EMGBI) and FTSE Emerging Markets Government Bond Index – Japanese Investment Trust (EMGBI-JIT):

- Daily (except last business day) reports, issue-level and sector-level data: 7:30 p.m. E.T., same day
- Last business day daily and monthly reports, issue-level and sector-level data: 11:45 p.m. E.T., same day

For all other indices:

- Daily reports, issue-level and sector-level data: 11:45 p.m. E.T., same day
- Monthly reports, issue-level and sector-level data: 11:45 p.m. E.T., last business day

Notifications

Under extenuating circumstances, index production may be delayed. If index production is delayed beyond its normally scheduled times, a notice will be posted to www.yieldbook.com/m/indices and delivered to subscribers of Production News. Additionally, revisions to the data delivery schedule due to US holidays are also posted in advance on the website.

Subscribers to Index Production News will automatically receive notifications relating to the data delivery schedule via email.

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Global indices

5.1. FTSE Nominal Government Bond Indices

FTSE Russell track over 40 local currency, fixed-rate, nominal government bond markets. Countries are included in flagship multi-currency nominal government bond indices based on their Market Accessibility Level, market size and/or credit rating criteria of each index. The inclusion criteria for all the local currency, fixed-rate government bond markets can be found below.

The FTSE Nominal Government Bond Indices do not take account of ESG factors in their index design.

FTSE Nominal Government Bond Indices design criteria

Region	Country	Coupon	Minimum Issue Size	Composition
Americas	Brazil	Fixed-rate	BRL 5 billion (excludes Central Bank of Brazil holdings)	Excludes LTNs
	Canada	Fixed-rate	CAD 2.5 billion (excludes holdings from secondary market Bank of Canada buybacks)	N/A
	Chile	Fixed-rate	CLP 100 billion	N/A
	Colombia	Fixed-rate	COP 2 trillion	Excludes Tes Control Monetario (TCM) bonds
	Costa Rica	Fixed-rate	CRC 100 billion	Includes securities issued by the Central Bank of Costa Rica
	Dominican Republic	Fixed-rate	DOP 10 billion	Includes securities issued by the Central Bank of Dominican Republic
	Mexico	Fixed-rate	MXN 10 billion	Excludes bonds issued prior to January 1, 2003
	Peru	Fixed-rate	PEN 2 billion	N/A
	United States	Fixed-rate	USD 5 billion public amount outstanding (excludes Federal Reserve holdings)	Includes callable bonds

EMEA	Austria	Fixed-rate	EUR 2.5 billion	Includes Bundesanleihen Excludes Bundesobligationen bonds
	Belgium	Fixed-rate	EUR 2.5 billion	N/A
	Czech Republic	Fixed-rate	CZK 15 billion	Excludes zero-coupon bonds
	Denmark	Fixed-rate	DKK 20 million	Excludes mortgage credit bonds
	Finland	Fixed-rate	EUR 2.5 billion	Excludes sinking fund, puttable, extendable, housing fund and yield bonds
	France	Fixed-rate	EUR 2.5 billion	Includes Obligations Assimilables du Trésor (OATs) and Bons du Trésor à Intérêt Annuel Normalisé (BTANs)
	Egypt	Fixed-rate	EGP 1.5 billion	N/A
	Germany	Fixed-rate	EUR 2.5 billion	Includes Bundesrepublik, Schatzanweisungen, Bundesobligationen, Unity bonds, Treuhandanstalt, and Treuhandobligationen Excludes Schuldscheine, Unverzinsliche, Bundespost, Bundesbahn, and European Recovery Program Bonds
	Ghana	Fixed-rate	GHS 500 million	N/A
	Greece	Fixed-rate	EUR 2.5 billion	N/A
	Hungary	Fixed-rate	HUF 200 billion	N/A
	Ireland	Fixed-rate	EUR 2.5 billion	N/A
	Israel	Fixed-rate	ILS 5 billion	N/A
	Italy	Fixed-rate	EUR 2.5 billion	Includes Buoni del Tesoro Poliennale (BTPs)
	Kenya	Fixed-rate	KES 15 billion	Includes Kenyan infrastructure bonds
	Morocco	Fixed-rate	MAD 2 billion	N/A
	Netherlands	Fixed-rate	EUR 2.5 billion	N/A

	Nigeria	Fixed-rate	NGN 10 billion	Includes Federal Government of Nigerian (FGN) bonds and Sukuk. Excludes Nigerian Savings bonds.
	Norway	Fixed-rate	NOK 20 billion	Includes benchmark bonds Excludes loans and lottery loans issued before 1991
	Portugal	Fixed-rate	EUR 2.5 billion	Includes Obrigações do Tesouro (OTs)
	Poland	Fixed-rate	PLN 5 billion	N/A
	Qatar	Fixed-rate	QAR 750 million	Includes non-Sukuk government bonds
	Romania	Fixed-rate	RON 500 million	N/A
	Saudi Arabia	Fixed-rate	SAR 1 billion	Includes Sukuk and non-Sukuk government bonds
	Serbia	Fixed-rate	RSD 10 billion	N/A
	Spain	Fixed-rate	EUR 2.5 billion	Includes Bonos and Obligaciones del Estado Excludes discount bonds (Letras and Pagares del Tesoro)
	South Africa	Fixed-rate	ZAR 10 billion	Excludes zero-coupon bonds
	Sweden	Fixed-rate	SEK 25 billion	Includes Riksoptioner
	Switzerland	Fixed-rate	CHF 2 billion	Includes callable bonds Excludes book liabilities
	Türkiye	Fixed-rate	TRL 2 billion	N/A
	Ukraine	Fixed-rate	UAH 2.5 billion	N/A
	United Kingdom	Fixed-rate	GBP 2 billion (excludes Bank of England holdings)	Includes callable, partly paid, and convertible (into other gilt issues) bonds Excludes rump gilts and perpetuals (undated)
APAC	Australia	Fixed-rate	AUD 750 million (excludes Reserve Bank of Australia holdings)	Excludes tax rebate bonds
	Bangladesh	Fixed-rate	BDT 15 billion	N/A

China Onshore	Fixed-rate	Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion	*
Hong Kong	Fixed-rate	HKD 800 million	Excludes zero-coupon bonds
India*	Fixed-rate	INR 250 billion (except Benchmark bonds, which are included regardless of size)	Includes benchmark bonds
Indonesia	Fixed-rate	IDR 7.5 trillion	Excludes Recapitalization bonds and Sukuk bonds
Japan	Fixed-rate	JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks)	Includes callable bonds Excludes JGBs for individuals and discount bonds
Kazakhstan	Fixed-rate	KZT 50 billion	N/A
Malaysia	Fixed-rate	MYR 4 billion	Includes callable bonds Excludes Government Investment Issues (GII)
New Zealand	Fixed-rate	NZD 750 million (excludes Reserve Bank of New Zealand holdings)	N/A
Pakistan	Fixed-rate	PKR 20 billion	N/A
Philippines	Fixed-rate	PHP 25 billion	Excludes zero-coupon bonds and special purpose bonds
Singapore	Fixed-rate	SGD 1.5 billion (excludes Monetary Authority of Singapore holdings)	N/A
South Korea	Fixed-rate	KRW 1 trillion	Excludes Monetary Stabilization bonds, Korea Housing Trust bonds, and 10- Years securities issued prior to January 1, 2003
Sri Lanka	Fixed-rate	LKR 50 billion	Excludes zero-coupon bonds and bonds with maturity equal to or greater than 10 years from issuance
Taiwan	Fixed-rate	TWD 40 billion	N/A



Thailand	Fixed-rate	THB 25 billion	Excludes bonds with maturity greater than 30 years from issuance
Vietnam	Fixed-rate	VND 5 trillion	Excludes bonds issued by Vietnam Development Bank (VDB), private placement, and zero-coupon bonds

Global indices

5.2. FTSE Inflation-Linked Government Bond Indices

FTSE Russell track 19 local currency inflation-linked government bond markets. Countries are included in flagship multi-currency nominal government bond indices based on their Market Accessibility Level, market size and/or credit rating criteria of each index. The inclusion criteria for local currency inflation-linked government bond markets can be found below.

The FTSE Inflation-Linked Government Bond Indices do not take account of ESG factors in their index design.

FTSE Inflation-Linked Government Bond Indices design criteria

Region	Country	Minimum Issue Size	Composition	Inflation Index
Americas	Argentina	ARS 2 billion	BONCER, ARGCER	Consumer Price Index (CPI), published by National Institute of Statistics and Census (INDEC)
	Brazil	BRL 1 billion (excludes Central Bank of Brazil holdings)	NTN-B (National Treasury Notes, Series B)	IPCA: Extended Consumer Price Index, published by Instituto Brasileiro de Geografia e Estatística (IBGE)
	Canada	CAD 1 billion (excludes Bank of Canada primary market holdings and secondary market buybacks)	N/A	Consumer Price Index (62-001-X, free), published by Statistics Canada
	Chile	CLF 5 million	BCU, BTU	IPC: Índice de Precios al Consumidor, published by Central Bank of Chile
	Colombia	COU 3 billion	TES UVR	Consumer Price Index (CPI), published by Central Bank of Colombia
	Mexico	MXV 5 billion	UDIBONOS (Federal Government Bonds) UDIS: Unidades de Inversión - value based on Consumer Price denominated in UDI)	Index, currently published by Instituto Nacional de Estadística y Geografía (INEGI) and published by Banco de México prior to July 14, 2011
	United States	USD 5 billion (excludes Federal Reserve holdings)	Treasury Inflation-Protected Securities (TIPS)	Consumer Price Index (CPI), published by US Department of Labor,

				Bureau of Labor Statistics (BLS)
	Uruguay	UYU 125 million	Inflation-Linked Bonds Dual currency bonds are excluded	Consumer Price Index (CPI), published by the National Institute of Statistics (INE)
EMEA	Denmark	DKK 5 billion	DGBi	Consumer Price Index (CPI), published by Statistics Denmark
	France	EUR 2.5 billion	OATi, OAT€i, BTAN€i	OATi: Consumer Price Index (CPI) ex-tobacco, published by National Institute of Statistics and Economic Studies (INSEE). OAT€i and BTAN€i: EU Harmonized Index of Consumer Prices (HICP) ex-tobacco, published by Eurostat
	Germany	EUR 2.5 billion	BUND€i, BOBL€i	EU HICP ex-tobacco, published by Eurostat
	Italy	EUR 2.5 billion	BTP€i	EU HICP ex-tobacco, published by Eurostat
	Israel	ILS 5 billion	GALIL, CPI-Linked Government Bonds	Consumer Price Index (CPI): published by the Central Bureau of Statistics (CBS)
	Spain	EUR 2.5 billion	OBL€i, BON€i	EU HICP ex-tobacco, published by Eurostat
	Sweden	SEK 10 billion	Inflation-Linked Bonds	Consumer Price Index (CPI), published by Statistics Sweden (Statistiska centralbyrån-SCB)
	South Africa	ZAR 500 million	Inflation-Linked Bonds	Headline CPI: All items Consumer Price Index for all urban areas, published by Statistics South Africa (Stats SA)
	Türkiye	TRL 2 billion	CPI Indexed Bonds	CPI: General Consumer Price Index, published by Turkish Statistical Institute (TURKSTAT)

	United Kingdom	GBP 2 billion (excludes Bank of England and UK Debt Management Office holdings)	Index-Linked GILTs (ILG)	Retail Price Index (RPI), published by Office for National Statistics (ONS)
APAC	Australia	AUD 750 million (excludes Reserve Bank of Australia holdings)	Treasury Indexes Bonds	Consumer Price Index (CPI), published by the Australian Bureau of Statistics (ABS)
	Japan	JPY 250 billion (excludes Bank of Japan and Ministry of Finance holdings)	Inflation-Indexed Bonds (JGBi)	Consumer Price Index (CPI), published by the Statistics Bureau and the Director-General for Policy Planning of Japan
	New Zealand	NZD 750 million (excludes Reserve Bank of New Zealand holdings)	Inflation-Indexed Bonds (IIB)	Consumer Price Index (CPI): measured and published quarterly by Statistics New Zealand
	South Korea	KRW 1 trillion	KTBi – Inflation-linked KTB	KRCPI: published by the Statistics Korea

Global indices

5.3. FTSE World Government Bond Index (WGBI)

Sovereign | Multi-currency

The FTSE World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment-grade government bonds. The WGBI is a widely used benchmark that currently comprises sovereign debt from over 20 countries with more than 30 years of history available. The WGBI is a global benchmark providing coverage of the largest, highest quality and most accessible local currency government bond markets.

Sub-indices are available by country, currency, maturity, and rating.

The FTSE World Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

To be eligible for the WGBI, a local currency government bond market must satisfy the market size, credit rating and market accessibility level criteria provided below. These criteria are assessed on a semi-annual basis each March and September. Markets that no longer meet the minimum credit quality are removed from the index at the next monthly rebalance. Announcements regarding any index inclusion changes that result from the semi-annual FTSE Fixed Income Country Classification reviews each March and September are announced shortly thereafter, along with details on implementation.

FTSE World Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market size	<p>The thresholds for entry and exit are as follows:</p> <p>Entry: The outstanding amount of a market's eligible issues must total at least USD 50 billion, EUR 40 billion and JPY 5 trillion for the market to be eligible for inclusion.</p> <p>Exit: To remain eligible for the index, a market must maintain a minimum market size of at least half of all the entry-level market size criteria.</p>
Minimum issue size	<p>Americas</p> <p>Canada: CAD 2.5 billion (excludes holdings from secondary market Bank of Canada buybacks)</p> <p>Mexico: MXN 10 billion</p> <p>United States: USD 5 billion public amount outstanding (excludes Federal Reserve holdings)</p> <p>Europe, Middle East, and Africa</p> <p>Denmark: DKK 20 billion</p> <p>Eurozone Markets: EUR 2.5 billion</p> <p>Israel: ILS 5 billion</p> <p>Norway: NOK 20 billion</p>

	<p>Poland: PLN 5 billion</p> <p>Sweden: SEK 25 billion</p> <p>United Kingdom: GBP 2 billion (excludes Bank of England holdings)</p> <p>Asia Pacific and Japan</p> <p>Australia: AUD 750 million (excludes Reserve Bank of Australia holdings)</p> <p>China¹³: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion</p> <p>Japan: JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks)</p> <p>Malaysia: MYR 4 billion</p> <p>New Zealand: NZD 750 million (excludes Reserve Bank of New Zealand holdings)</p> <p>Singapore: SGD 1.5 billion (excludes Monetary Authority of Singapore holdings)</p>
Minimum credit quality¹⁴	<p>Entry: A- by S&P and A3 by Moody's, for all new markets.</p> <p>Exit: Below BBB- by S&P and Baa3 by Moody's.</p>
Market Accessibility Level	<p>Minimum level of 2.</p> <p>For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.</p>
Composition	<p>Sovereign debt denominated in the domestic currency. Eligible security types by market are listed in the below table.</p> <p>Variable rate, floating-rate, fixed-to-floating rate, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.</p>

FTSE World Government Bond Index composition by market

WGBI markets	Security type
Australia	Excludes tax rebate bonds
Austria	Includes Bundesanleihen Excludes Bundesobligationen bonds
Belgium	N/A
Canada	N/A

¹³ Inclusion of China phased in over a 36-month period starting in November 2021.

¹⁴ Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. The credit qualifications of the index are treated as provisional, in order to give market participants time to react to last-minute downgrades. A market will be removed from the index after the fixing if it becomes rated below investment-grade by both S&P and Moody's. This exception window is kept open until 5:00 p.m. New York time on the second to last business day of the month for removal only. Removal from the index, on or after the fixing date, is not reversible except by qualifying for the index once again, which takes a minimum of six months. There is no specific rule concerning default or what constitutes default. Conceivably, a market could technically default, but an immediate rescue could leave its existing bonds in the investment-grade category. Only a downgrade to below investment-grade would trigger a credit-related expulsion from the index.

WGBI markets	Security type
China	Zero-coupon bonds, saving bonds, special government bonds, bonds with maturity greater than 30 years from issuance, and bonds issued prior to January 1, 2005.
Denmark	Excludes mortgage credit bonds
Finland	Excludes sinking fund, puttable, extendable, housing fund and yield bonds
France	Includes Obligations Assimilables du Trésor (OATs) and Bons du Trésor à Intérêt Annuel Normalisé (BTANs)
Germany	Includes Bundesrepublik, Schatzanweisungen, Bundesobligationen, Unity bonds, Treuhandanstalt, and Treuhandobligationen Excludes Schuldscheine, Unverzinsliche, Bundespost, Bundesbahn, and European Recovery Program Bonds
Ireland	N/A
Israel	N/A
Italy	Includes Buoni del Tesoro Poliennale (BTPs)
Japan	Includes callable bonds Excludes JGBs for individuals and discount bonds
Malaysia	Includes callable bonds Excludes Government Investment Issues (GII)
Mexico	Excludes bonds issued prior to January 1, 2003
Netherlands	N/A
New Zealand	N/A
Norway	Includes benchmark bonds Excludes loans and lottery loans issued before 1991
Poland	N/A
Singapore	N/A
Spain	Includes Bonos and Obligaciones del Estado Excludes discount bonds (Letras and Pagares del Tesoro)
Sweden	Includes Riksoptioner
United Kingdom	Includes callable, partly paid, and convertible (into other gilt issues) bonds Excludes rump gilts and perpetuals (undated)
United States	Includes callable bonds

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE World Government Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	<p>Refinitiv except for:</p> <p>Israel (provided by the Tel Aviv Stock Exchange)¹⁵</p> <p>Mexico (provided by Proveedor Integral de Precios S.A. de C.V.)</p> <p>Poland (provided by BondSpot)</p> <p>Singapore (provided by the Monetary Authority of Singapore)</p> <p>For more information on local market close, see Figure 4.</p>
Calculation frequency	Daily
Settlement date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 1984

Related indices

FTSE World Government Bond 0+ Years Index

The FTSE World Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE World Government Bond Index (WGBI) through to maturity. A minimum maturity of one month applies.

FTSE World Government Bond 0-1 Year Index

The index tracks ‘roll-down’ bonds from the FTSE WGBI (bonds with less than one year remaining until maturity), using a common methodology. A minimum maturity of one month applies.

¹⁵ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel’s last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.



FTSE World Government 0-1 Year Index

The FTSE World Government 0-1 Year Index provides roll-down and treasury bill coverage, combining the FTSE World Government Bond 0-1 Year Index with the associated treasury bill indices as covered within the FTSE Global Treasury Bill 0-1 Year Index Series. Sub-indices are available by country and term.

FTSE EMU Government Bond Index (EGBI)

The FTSE EMU Government Bond Index (EGBI) consists of the Eurozone-participating countries that meet the WGBI criteria. Current Eurozone-participating countries include Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain. Of these markets, only those that satisfy the WGBI criteria for market inclusion are included in the EGBI, namely: Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, and Spain.

FTSE Group-of-Five (G5) Government Bond Index

The FTSE Group-of-Five (G5) Government Bond Index includes France, Germany, Japan, the United Kingdom, and the United States. This index is designed to provide broad international exposure using a small number of markets.

FTSE Group-of-Seven (G7) Government Bond Index

The FTSE Group-of-Seven (G7) Government Bond Index includes Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

FTSE European World Government Bond Index

The FTSE European World Government Bond Index consists of those 14 markets of the WGBI that are geographically located in Europe - Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Poland, Spain, Sweden, and the United Kingdom.

FTSE Non-Base Currency Government Bond Indices

The indices of non-base currency sectors exclude respective base currency bond markets from the calculation and, in turn, are stated in terms of the base currency. For example, the non-US Dollar WGBI includes all WGBI markets except the United States and is stated in USD terms. Returns can be stated in any base currency.

FTSE After-Tax Bond Indices¹⁶

The FTSE After-Tax Bond Indices are based on the FTSE World Government Bond Index. After-tax returns are computed from the point of view of a US pension account and attempt to approximate the effect on the total return of withholding tax on coupon income. As of July 2019, no markets in the index reflect a withholding tax adjustment.

¹⁶ Effective July 1, 1997, all Italian bonds accrue and pay interest on a gross basis. Effective April 6, 1998, all UK gilt securities accrue and pay interest on a gross basis. Although for the index it is assumed that Australian government bonds pay interest on a gross basis, under certain circumstances, some US pension funds may be subject to withholding tax on these investments. Effective April 1, 2010, all JGBs accrue and pay interest on a gross basis. Effective September 2018, Switzerland is removed from the WGBI as it no longer meets the inclusion criteria due to its market size – a tax rate of 35% was previously used as part of its calculation for the After-Tax Index.

Global indices

5.4. FTSE World Government Bond Index – Developed Markets (WGBI-DM)

Sovereign | Multi-currency

The FTSE World Government Bond Index - Developed Markets (WGBI-DM) measures the performance of fixed-rate, local currency, investment-grade sovereign bonds issued by countries designated as Developed based on FTSE fixed income index methodology. Index inclusion is based on the global government markets eligible for the FTSE World Government Bond Index (WGBI), excluding any markets that are classified as emerging. A country is classified to be “emerging” if it is defined by the International Monetary Fund (IMF) World Economic Outlook to be among “emerging and developing economies” or if it is defined by the World Bank (WB) to be among “low-income economies” or “lower middle-income economies” or “upper-middle-income economies”.

A new developed market entering the WGBI will also enter the WGBI-DM at the same time. Markets being removed from the WGBI because they have met WGBI’s exit criteria will also be removed from the WGBI-DM.

Sub-indices are available by country, currency, maturity, and rating.

The FTSE World Government Bond Index – Developed Markets (WGBI-DM) does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE World Government Bond Index – Developed Markets design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market size	<p>The thresholds for entry and exit are as follows:</p> <p>Entry: The outstanding amount of a market’s eligible issues must total at least USD 50 billion, EUR 40 billion and JPY 5 trillion for the market to be considered eligible for inclusion.</p> <p>Exit: To remain eligible for the index, a market must maintain a minimum market size of at least half of all the entry-level market size criteria.</p>
Minimum issue size	<p>Americas</p> <p>Canada: CAD 2.5 billion (excludes holdings from secondary market Bank of Canada buybacks)</p> <p>United States: USD 5 billion public amount outstanding (excludes Federal Reserve holdings)</p> <p>Europe, Middle East, and Africa</p> <p>Denmark: DKK 20 billion</p> <p>Eurozone Markets: EUR 2.5 billion</p> <p>Israel: ILS 5 billion</p> <p>Norway: NOK 20 billion</p>

	<p>Sweden: SEK 25 billion</p> <p>United Kingdom: GBP 2 billion (excludes Bank of England holdings)</p> <p>Asia Pacific and Japan</p> <p>Australia: AUD 750 million (excludes Reserve Bank of Australia holdings)</p> <p>Japan: JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks)</p> <p>New Zealand: NZD 750 million (excludes Reserve Bank of New Zealand holdings)</p> <p>Singapore: SGD 1.5 billion (excludes Monetary Authority of Singapore holdings)</p>
Minimum credit quality¹⁷	<p>Entry: A- by S&P and A3 by Moody's, for all new markets.</p> <p>Exit: Below BBB- by S&P and Baa3 by Moody's.</p>
Market Accessibility Level	<p>Minimum level of 2.</p> <p>For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.</p>
Country eligibility	<p>All markets that are included in the WGBI, excluding any emerging markets.</p>
Composition	<p>Sovereign debt denominated in the domestic currency. Eligible security types by market are listed in the below table.</p> <p>Variable rate, floating-rate, fixed-to-floating rate, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.</p>

FTSE World Government Bond Index – Developed Markets composition by market

WGBI-DM markets	Security type
Australia	Excludes tax rebate bonds
Austria	Includes Bundesanleihen Excludes Bundesobligationen bonds
Belgium	N/A
Canada	N/A
Denmark	Excludes mortgage credit bonds
Finland	Excludes sinking fund, puttable, extendable, housing fund and yield bonds
France	Includes Obligations Assimilables du Trésor (OATs) and Bons du Trésor à Intérêt Annuel Normalisé (BTANs)

¹⁷ Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. The credit qualifications of the index are treated as provisional, in order to give market participants time to react to last-minute downgrades. A market will be removed from the index after the fixing if it becomes rated below investment-grade by both S&P and Moody's. This exception window is kept open until 5:00 p.m. New York time on the second to last business day of the month for removal only. Removal from the index, on or after the fixing date, is not reversible except by qualifying for the index once again, which takes a minimum of six months. There is no specific rule concerning default or what constitutes default. Conceivably, a market could technically default, but an immediate rescue could leave its existing bonds in the investment-grade category. Only a downgrade to below investment-grade would trigger a credit-related expulsion from the index.

WGBI-DM markets	Security type
Germany	Includes Bundesrepublik, Schatzanweisungen, Bundesobligationen, Unity bonds, Treuhandanstalt, and Treuhandobligationen Excludes Schuldscheine, Unverzinsliche, Bundespost, Bundesbahn, and European Recovery Program Bonds
Israel	N/A
Ireland	N/A
Italy	Includes Buoni del Tesoro Poliennale (BTPs)
Japan	Includes callable bonds Excludes JGBs for individuals and discount bonds
Netherlands	N/A
New Zealand	N/A
Norway	Includes benchmark bonds Excludes loans and lottery loans issued before 1991
Singapore	N/A
Spain	Includes Bonos and Obligaciones del Estado Excludes discount bonds (Letras and Pagares del Tesoro)
Sweden	Includes Riksobligationer
United Kingdom	Includes callable, partly paid, and convertible (into other gilt issues) bonds Excludes rump gilts and perpetuals (undated)
United States	Includes callable bonds

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE World Government Bond Index – Developed Markets calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv except for: Israel (provided by the Tel Aviv Stock Exchange) ¹⁸

¹⁸ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel's last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.



	Singapore (provided by the Monetary Authority of Singapore). For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 1984

Global indices

5.5. FTSE World Government Bond Index – Extended (WGBI-Extended)

Sovereign | Multi-currency

The FTSE World Government Bond Index – Extended (WGBI-Extended) measures the performance of fixed-rate, local currency, investment-grade sovereign bonds. The WGBI-Extended includes any market that meets the size and credit criteria of the FTSE World Government Bond Index (WGBI) and is also a market already present in or eligible to be in one of the four regional government bond indices. These regional indices are the FTSE Asia Pacific Government Bond Index (APGBI), FTSE Central Eastern Europe, Middle East, and Africa Government Bond Index (CEEMEAGBI), FTSE Emerging Markets Government Bond Index (EMGBI) and FTSE Latin American Government Bond Index (LATAMGBI).

Sub-indices are available by country, currency, maturity, and rating.

The FTSE World Government Bond Index – Extended (WGBI-Extended) does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE World Government Bond Index – Extended design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market size	<p>The thresholds for entry and exit are as follows:</p> <p>Entry: The outstanding amount of a market's eligible issues must total at least USD 50 billion, EUR 40 billion and JPY 5 trillion for the market to be considered eligible for inclusion.</p> <p>Exit: To remain eligible for the index, a market must maintain a minimum market size of at least half of all the entry-level market size criteria.</p>
Minimum issue size	<p>Americas</p> <p>Canada: CAD 2.5 billion (excludes holdings from secondary market Bank of Canada buybacks)</p> <p>Mexico: MXN 10 billion</p> <p>United States: USD 5 billion public amount outstanding (excludes Federal Reserve holdings)</p> <p>Europe, Middle East, and Africa</p> <p>Denmark: DKK 20 billion</p> <p>Eurozone Markets: EUR 2.5 billion</p> <p>Israel: ILS 5 billion</p> <p>Norway: NOK 20 billion</p> <p>Poland: PLN 5 billion</p>

	<p>Sweden: SEK 25 billion</p> <p>United Kingdom: GBP 2 billion (excludes Bank of England holdings)</p> <p>Asia Pacific and Japan</p> <p>Australia: AUD 750 million (excludes Reserve Bank of Australia holdings)</p> <p>China: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion</p> <p>Japan: JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks)</p> <p>Korea: KRW 1 trillion</p> <p>Malaysia: MYR 4 billion</p> <p>Singapore: SGD 1.5 billion (excludes Monetary Authority of Singapore holdings)</p>
Minimum credit quality¹⁹	<p>Entry: A- by S&P and A3 by Moody's, for all new markets.</p> <p>Exit: Below BBB- by S&P and Baa3 by Moody's.</p>
Country eligibility	<p>Any market that meets the size and credit criteria of the FTSE World Government Bond Index (WGBI) and is also present in or eligible to be in one of the four regional government bond indices, namely:</p> <p>FTSE Asia Pacific Government Bond Index (APGBI)</p> <p>FTSE Central Eastern Europe, Middle East and Africa Government Bond Index (CEEMEAGBI)</p> <p>FTSE Emerging Markets Government Bond Index (EMGBI)</p> <p>FTSE Latin American Government Bond Index (LATAMGBI)</p>
Composition	<p>Sovereign debt denominated in the domestic currency. Eligible security types by market are listed in the below table.</p> <p>Variable rate, floating-rate, fixed-to-floating rate, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.</p>

FTSE World Government Bond Index – Extended composition by market

WGBI-Extended markets	Security type
Australia	Excludes tax rebate bonds
Austria	Includes Bundesanleihen Excludes Bundesobligationen bonds
Belgium	N/A

¹⁹ Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. The credit qualifications of the index are treated as provisional, in order to give market participants time to react to last-minute downgrades. A market will be removed from the index after the fixing if it becomes rated below investment-grade by both S&P and Moody's. This exception window is kept open until 5:00 p.m. New York time on the second to last business day of the month for removal only. Removal from the index, on or after the fixing date, is not reversible except by qualifying for the index once again, which takes a minimum of six months. There is no specific rule concerning default or what constitutes default. Conceivably, a market could technically default, but an immediate rescue could leave its existing bonds in the investment-grade category. Only a downgrade to below investment-grade would trigger a credit-related expulsion from the index.

WGBI-Extended markets	Security type
Canada	N/A
China	Excludes zero-coupon bonds, special government bonds, bonds with maturity greater than 30 years from issuance and bonds issued prior to January 1, 2005
Denmark	Excludes mortgage credit bonds
Finland	Excludes sinking fund, puttable, extendable, housing fund and yield bonds
France	Includes Obligations Assimilables du Trésor (OATs) and Bons du Trésor à Intérêt Annuel Normalisé (BTANs)
Germany	Includes Bundesrepublik, Schatzanweisungen, Bundesobligationen, Unity bonds, Treuhandanstalt, and Treuhandobligationen Excludes Schuldscheine, Unverzinsliche, Bundespost, Bundesbahn, and European Recovery Program Bonds
Ireland	N/A
Israel	N/A
Italy	Includes Buoni del Tesoro Poliennale (BTPs)
Japan	Includes callable bonds Excludes JGBs for individuals and discount bonds
Korea	Excludes Monetary Stabilization bonds, Korea Housing Trust bonds and 10-Years securities issued prior to January 1, 2003
Malaysia	Includes callable bonds Excludes Government Investment Issues (GII)
Mexico	Excludes bonds issued prior to January 1, 2003
Netherlands	N/A
Norway	Includes benchmark bonds Excludes loans and lottery loans issued before 1991
Poland	N/A
Singapore	N/A
Spain	Includes Bonos and Obligaciones del Estado Excludes discount bonds (Letras and Pagares del Tesoro)
Sweden	Includes Riksobligationer
United Kingdom	Includes callable, partly paid, and convertible (into other gilt issues) bonds Excludes rump gilts and perpetuals (undated)
United States	Includes callable bonds

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE World Government Bond Index – Extended calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv except for: Israel (provided by Tel Aviv Stock Exchange) ²⁰ Mexico (provided by Proveedor Integral de Precios S.A. de C.V.) Poland (provided by BondSpot) Singapore (provided by the Monetary Authority of Singapore) For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are “fixed” on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 1984

²⁰ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel's last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.

Global indices

5.6. FTSE World Government Bond Index – Japanese Investment Trust (WGBI-JIT)

Sovereign | Multi-currency

The FTSE World Government Bond Index - Japanese Investment Trust (WGBI-JIT) is designed to serve as a benchmark for performance evaluation by Japanese investment trusts. The calculation methodology is based on the evaluation standards of the Investment Trusts Association of Japan.

The WGBI-JIT satisfies the benchmark needs of domestic Japanese investment trusts. There are four distinguishing features of WGBI-JIT. Japanese government bonds are priced as of today's market close; non-Japanese government bonds are priced as of yesterday's market close; WGBI-JIT uses the telegraphic transfer middle (TTM) exchange rates provided by MUFG Bank as of mid-morning, 10:00 a.m. Tokyo time, in compliance with Investment Trusts Association of Japan; and finally, WGBI-JIT return and market value calculations for non-yen securities, described in detail in the appendix²¹, are unique to WGBI-JIT.

If a currency is not among the ones for which MUFG Bank provides TTM quotes, rates from Refinitiv are used. This satisfies the consistency stipulation on alternate rates of the Business Management Committee of Investment Trusts.

On rare occasions, the Japanese Ministry of Finance intervenes in foreign exchange markets. If such event occurs on the last business day after 10:00 a.m. Tokyo and MUFG Bank officially revises the 10:00 a.m. rates, FTSE Russell will restate the last business day WGBI-JIT returns and monthly returns if they differ significantly from the originally published returns.

The FTSE World Government Bond Index – Japanese Investment Trust does not take account of ESG factors in its index design.

Base Index Universe

The index composition is based on the global sovereign markets and constituents of the FTSE World Government Bond Index (WGBI). A new market entering the WGBI will also enter the WGBI-JIT at the same time. Markets being removed from the WGBI because they are subjected to WGBI's exit criteria will also be removed from the WGBI-JIT.

FTSE World Government Bond Index – Japanese Investment Trust Calculation Methodology

The methodology for the WGBI-JIT follows the WGBI with the exception of the differences which are highlighted in the following table.

	WGBI-JIT	WGBI
Exchange rate	MUFG Bank telegraphic transfer spot middle rate (TTM) as quoted at 10:00 a.m. Tokyo time ²²	Refinitiv — Median rate based on snapshots taken of 4:00 p.m. London time

²¹ For a detailed description of the market value and return calculations for non-yen sectors of the WGBI-JIT, please see Appendix 3.

²² WM/Reuters quotes are used for currencies during periods in which MUFG Bank quotes are not available. Historically, WM/Reuters rates were used for Greek drachma (April–December 2000), Polish zloty (prior to December 2003), Malaysian Ringgit and Taiwanese Dollar (prior to January 2007).



Pricing	Japan: same day market close. Other markets: previous trading day's local market close.	All markets: same day local market close.
Base date	December 31, 1996	December 31, 1984

Global indices

5.7. FTSE MPF World Government Bond Index

The FTSE MPF World Government Bond Index is designed to help users comply with the regulatory requirements governing investments in debt securities by Hong Kong Mandatory Provident Fund schemes. The index is based on the FTSE World Government Bond Index (WGBI) which measures the performance of fixed-rate, local currency, investment-grade sovereign bonds.

The FTSE MPF World Government Bond Index incorporates additional criteria²³ as stipulated by the Mandatory Provident Fund Schemes (General) Regulation and Guidelines on Debt Securities. FTSE Russell worked closely with the Hong Kong Investment Funds Association (HKIFA) and Willis Towers Watson to ensure that the index appropriately reflects Hong Kong Mandatory Provident Fund Schemes Authority (MPFA) rules.

The FTSE MPF World Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE MPF World Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market size	<p>The following market size criteria apply to the WGBI-portion of the index. For the remainder of the index components, there are no market size constraints.</p> <p>Entry: The outstanding amount of a market's eligible issues must total at least USD 50 billion, EUR 40 billion and JPY 5 trillion for the market to be considered eligible for inclusion.</p> <p>Exit: To remain eligible for the index, a market must maintain a minimum market size of at least half of all the entry-level market size criteria.</p>
Minimum issue size	<p>Americas</p> <p>Canada: CAD 2.5 billion (excludes holdings from secondary market Bank of Canada buybacks)</p> <p>Mexico: MXN 10 billion</p> <p>United States: USD 5 billion public amount outstanding (excludes Federal Reserve holdings)</p> <p>Europe, Middle East, and Africa</p> <p>Denmark: DKK 20 billion</p> <p>Eurozone Markets: EUR 2.5 billion</p> <p>Israel: ILS 5 billion</p> <p>Norway: NOK 20 billion</p> <p>Poland: PLN 5 billion Sweden: SEK 25 billion</p> <p>United Kingdom: GBP 2 billion (excludes Bank of England holdings)</p>

²³ <https://www.mpfa.org.hk/en/info-centre/laws-and-regulations/legislation/primary-legislation>

	<p>Asia Pacific and Japan</p> <p>Australia: AUD 750 million (excludes Reserve Bank of Australia holdings)</p> <p>China: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion</p> <p>Japan: JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks)</p> <p>Malaysia: MYR 4 billion</p> <p>New Zealand: NZD 750 million (excludes Reserve Bank of New Zealand holdings)</p> <p>Singapore: SGD 1.5 billion (excludes Monetary Authority of Singapore holdings)</p>
Minimum credit quality	Minimum credit quality as per Mandatory Provident Fund Schemes (General) Regulation and III.1 Guidelines on Debt Securities. Bond level rating is required per Mandatory Provident Fund Schemes (General) Regulation and III.1 Guidelines on Debt Securities.
Market Accessibility Level	<p>Minimum level of 2.</p> <p>For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.</p>
Composition	<p>Sovereign debt denominated in the domestic currency. Eligible security types by market are the same as the WGBI.</p> <p>Variable rate, floating-rate, fixed-to-floating rate, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.</p> <p>China: Zero-coupon bonds, saving bonds, special government bonds, bonds with maturity greater than 30 years from issuance, and bonds issued prior to January 1, 2005.</p>

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE MPF World Government Bond Index calculation methodology

Weighting	Market capitalization
Capping	Maximum 9% for non-exempt authority (issuer) as per Mandatory Provident Fund Schemes (General) Regulation and III.1 Guidelines on Debt Securities' definition of exempt authority ²⁴
Hedging	100% hedged in HKD
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.

²⁴ <https://www.mpfa.org.hk/en/info-centre/laws-and-regulations/legislation/primary-legislation>

Pricing	<p>Refinitiv</p> <p>Israel (provided by Tel Aviv Stock Exchange)²⁵</p> <p>Mexico (provided by Proveedor Integral de Precios S.A. de C.V.)</p> <p>Poland (provided by BondSpot)</p> <p>Singapore (provided by the Monetary Authority of Singapore)</p> <p>For more information on local market close, see Figure 4.</p>
Calculation frequency	Daily
Settlement date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2015

²⁵ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel's last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.

Global indices

5.8. FTSE World Broad Investment-Grade Bond Index (WorldBIG®)

Multi-sector | Multi-currency

The FTSE World Broad Investment-Grade Bond Index (WorldBIG) is a multi-sector, multi-currency benchmark which provides a broad-based measure of the global fixed income markets. The inclusion of government, government-sponsored/supranational, collateralized, and corporate debt makes the WorldBIG a comprehensive representation of the global, investment-grade universe.

Sub-indices are available by sector, currency, maturity, and rating.

Design criteria and calculation methodology

In constructing the WorldBIG, the FTSE World Government Bond Index (WGBI) has been used as the core. The WGBI serves as sovereign exposure and local currency government bond markets are subject to the same entry criteria already established for the WGBI.

In addition, the WorldBIG includes credit market coverage for the US Dollar (USD), Euro (EUR), Japanese Yen (JPY), and UK Sterling (GBP). Larger minimum issue sizes are applied for credit bonds to ensure that they are sufficiently investable for global index users.

The FTSE World Broad Investment-Grade Bond Index does not take account of ESG factors in its index design.

FTSE World Broad Investment-Grade Bond Index design criteria²⁶

Coupon	Fixed-rate fixed-to-floating rate and zero coupon
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	Issue Size by Currency: US Dollar Domestic sovereign: USD 5 billion public amount outstanding (excludes Federal Reserve purchases) US agency/supranational: USD 1 billion Credit/asset-backed: USD 500 million Mortgage coupon: USD 5 billion (Origination year minimum: USD 1 billion) Eurodollar: US agency and supranationals: USD 1 billion; other: USD 500 million Japanese Yen Domestic sovereign: JPY 500 billion for bonds with maturity less than 20 years; JPY 450 billion for bonds with maturities equal to or greater than 20 years (excludes Bank of Japan and Ministry of Finance holdings) Euroyen: JPY 50 billion

²⁶ All the Design Criteria that apply to the WGBI are also applicable to the WGBI portion of the WorldBIG.

	<p>Euro Eurozone sovereign: EUR 2.5 billion Other: EUR 500 million or the equivalent for non-redenominated bonds</p> <p>UK Sterling Domestic sovereign: GBP 2 billion (excludes perpetual and Bank of England holdings)</p> <p>Eurosterling: GBP 300 million</p> <p>Australian Dollar: Domestic sovereign: AUD 750 million (excludes Reserve Bank of Australia holdings)</p> <p>Canadian Dollar: Domestic sovereign: CAD 2.5 billion</p> <p>Chinese Yen: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion</p> <p>Danish Krone: Domestic sovereign: DKK 20 billion</p> <p>Israeli Shekel: ILS 5 billion</p> <p>Malaysian Ringgit: Domestic sovereign: MYR 4 billion</p> <p>Mexican Peso: Domestic sovereign: MXN 10 billion</p> <p>New Zealand: NZD 750 million (excludes Reserve Bank of New Zealand holdings)</p> <p>Norwegian Krone: Domestic sovereign: NOK 20 billion</p> <p>Polish Zloty: Domestic sovereign: PLN 5 billion</p> <p>Singapore Dollar: Domestic sovereign: SGD 1.5 billion</p> <p>Swedish Krona: Domestic sovereign: SEK 25 billion</p>
Minimum credit quality	BBB - by S&P or Baa3 by Moody's
Composition	<p>WGBI (entire index)</p> <p>USBIG (minimum issue size for credit/asset-backed: USD 500 million)</p> <p>EuroBIG (entire index)</p> <p>Euroyen (entire index)</p> <p>Eurodollar (minimum issue size: corporate/financial/asset-backed: USD 500 million)</p> <p>Eurosterling (minimum issue size: GBP 300 million)</p>
Redemption features	Bullet, sinking fund, puttable, extendable, or callable

The WorldBIG is divided into three main asset classes: (1) government/government-sponsored; (2) collateralized; and (3) corporate. In addition, all Pfandbrief and Pfandbrief-like securities, which are predominant in the euro region, are classified as covered bonds. This classification scheme differs from that used in most existing stand-alone indices.

FTSE World Broad Investment-Grade Bond Index sector classification

Sovereign / Sovereign-Guaranteed	Government-Sponsored / Regional Government	Collateralized
Domestic Sovereign (WGBI)	Agency	Asset-Backed Securities

Foreign Sovereign	Regional Government	Covered
Sovereign-Guaranteed	Regional Government-Guaranteed	Jumbo Pfandbrief
	Regional Government-Sponsored	Other Covered
	Supranational	Mortgage-Backed Securities
	Other Sovereign-Sponsored	

Corporate – Utility	Corporate – Industrial	Corporate – Finance
Electric	Consumer	Banks
Gas	Energy	Independent Finance
Telecommunication	Manufacturing	Insurance
Other Utility	Service	Other Finance
	Transportation	
	Other Industrial	

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE World Broad Investment-Grade Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	<p>Pricing for the WGBI portion of the index: Refinitiv pricing except for: Israel (provided by Tel Aviv Stock Exchange)²⁷ Mexico (provided by Proveedor Integral de Precios S.A. de C.V.) Poland (provided by BondSpot) Singapore (provided by the Monetary Authority of Singapore)</p> <p>For the non-WGBI portion of the index: Refinitiv For more information on local market close, see Figure 4.</p>
Calculation frequency	Daily

²⁷ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel's last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.



Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Volatility	US Non-mortgages: 10% single volatility; US Mortgages: Market-implied volatility (LMM skew model)
Base date	December 31, 1998

Global indices

5.9. FTSE World Inflation-Linked Securities Index (WorldILSI)

Sovereign | Multi-currency

The FTSE World Inflation-Linked Securities Index (WorldILSI) measures the returns of inflation-linked sovereign bonds with fixed-rate coupon payments that are linked to an inflation index. The WorldILSI tracks debt from thirteen countries denominated in ten currencies.

Sub-indices are available by country, currency, and maturity.

Design criteria and calculation methodology

To be eligible for the WorldILSI, markets must satisfy market size, credit rating and market accessibility level criteria provided below. These criteria are assessed on a semi-annual basis each March and September as part of the FTSE Fixed Income Country Classification Process, however, markets that no longer meet the minimum credit quality are removed from the index at the next month's profile. Announcements regarding any changes that result from the semi-annual review are announced shortly thereafter, along with further details on implementation.

The FTSE World Inflation-Linked Securities Index does not take account of ESG factors in its index design.

FTSE World Inflation-Linked Securities Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market Size	The thresholds for entry and exit are as follows: Entry: The outstanding amount of a market's eligible issues must total at least USD 10 billion. Exit: To remain eligible for the index, a market must maintain a minimum market size of at least half of the entry-level market size criteria.
Minimum issue size²⁸	Americas Canada: CAD 1 billion (excludes Bank of Canada primary market holdings and secondary market buybacks) Mexico: MXV 5 billion United States: USD 5 billion (excludes Federal Reserve holdings) Europe, Middle East, and Africa Eurozone Markets: EUR 2.5 billion Israel: ILS 5 billion Sweden: SEK 10 billion United Kingdom: GBP 2 billion (excludes Bank of England and UK Debt Management Office holdings) Asia Pacific and Japan Australia: AUD 750 million (excludes Reserve Bank of Australia holdings) Japan: JPY 250 billion (excludes Bank of Japan and Ministry of Finance holdings) New Zealand: NZD 750 million

²⁸ As of July 2021, Poland is no longer an eligible market for the FTSE World Inflation-Linked Securities Index (WorldILSI)

Minimum credit quality	Entry: A- by S&P and A3 by Moody's for all new markets. Exit: Below BBB- by S&P or Baa3 by Moody's
Market Accessibility Level	Minimum level of 2. For further details on calibration of Market Accessibility Levels, please see the FTSE Fixed Income Country Classification Process.
Composition	Sovereign inflation-linked debt denominated in the domestic currency. Eligible security types by market are listed in the below table. Nominal bonds, floating-rate, retail bonds, bills, and private placements are excluded.

FTSE World Inflation-Linked Securities Index composition by market

Country	Inflation-linked securities	Inflation index
Australia	Treasury Indexed Bonds	Consumer Price Index (CPI), published by the Australian Bureau of Statistics (ABS)
Canada	N/A	Consumer Price Index (62-001-X, free), published by Statistics Canada
France	OATi, OAT€i, BTAN€i	OATi: Consumer Price Index (CPI) ex-tobacco, published by National Institute of Statistics and Economic Studies (INSEE). OAT€i and BTAN€i: EU Harmonized Index of Consumer Prices (HICP) ex-tobacco, published by Eurostat
Germany	BUND€i, BOBL€i	EU HICP ex-tobacco, published by Eurostat
Israel	GALIL, CPI-Linked Government Bonds	Consumer Price Index (CPI), published by the Central Bureau of Statistics (CBS)
Italy	BTP€i	EU HICP ex-tobacco, published by Eurostat
Japan	Inflation-Indexed Bonds (JGBi)	Consumer Price Index (CPI), published by the Statistics Bureau and the Director-General for Policy Planning of Japan
Mexico	UDIBONOS (Federal Government Bonds UDIS: Unidades de Inversion - value based on Consumer Price denominated in UDI)	Index, currently published by Instituto Nacional de Estadística y Geografía (INEGI) and published by Banco de Mexico prior to July 14, 2011
New Zealand	Inflation-Indexed Bonds (IIB)	Consumer Price Index (CPI), measured and published quarterly by Statistics New Zealand
Spain	OBL€i, BON€i	EU HICP ex-tobacco, published by Eurostat

Country	Inflation-linked securities	Inflation index
Sweden	Inflation-Linked Bonds	Consumer Price Index (CPI), published by Statistics Sweden (Statistiska centralbyran- SCB)
United Kingdom	Index-Linked GILTs (ILG)	Retail Price Index (RPI), published by Office for National Statistics (ONS)
United States	Treasury Inflation-Protected Securities (TIPS)	Consumer Price Index (CPI), published by US Department of Labor, Bureau of Labor Statistics (BLS)

The index follows the general methodology as outlined in the Index Methodology section of this publication. In addition, the price of each issue in the index is adjusted by using an index ratio. In general, this ratio is the current index level²⁹ divided by the inflation index level at the time of issue of the security. If the inflation index is published monthly, then the intra-month index ratio is calculated using linear interpolation. The calculation of an index ratio, if any, follows individual market convention.

FTSE World Inflation-Linked Securities Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv except for: Israel (provided by Tel Aviv Stock Exchange) ³⁰ Mexico (provided by Proveedor Integral de Precios S.A. de C.V.) For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	April 30, 2007

²⁹ The current index level is equal to a previous value; the “look-back” period is specified at the time of issuance for each individual bond.

³⁰ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel’s last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.



Related indices

FTSE World Inflation-Linked Securities 0+ Years Index

The FTSE World Inflation-Linked Securities 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE World Inflation-Linked Securities Index (WorldILSI) through to maturity. A minimum maturity of one month applies.

FTSE Euro Inflation-Linked Securities Index (EuroILSI)

The FTSE Euro Inflation-Linked Securities Index (EuroILSI) measures the returns of French, German, Italian and Spanish inflation-linked bonds with fixed-rate coupon payments that are linked to the EU Harmonized Index of Consumer Prices (HICP) ex-tobacco and the Consumer Price Index (CPI) ex-tobacco.

Global indices

5.10. FTSE Eurobond Indices

Multi-sector | Multi-currency

The FTSE Eurobond Indices provide a comprehensive and relevant measure of performance for Eurodollar, Eurosterling, and Euroyen bonds. These indices comprise investment-grade issues with at least one year until maturity.

Design criteria and calculation methodology

The FTSE Eurodollar Bond Index includes fixed-rate, USD-denominated bonds that are broadly available to investors outside of the US, including corporate bonds issued under US Rule 144a with registration rights; agency, supranational, government-sponsored and government-guaranteed bonds issued under US Rule 144a with or without registration rights, and securities issued under US Regulation-S without a corresponding 144a tranche.

The FTSE Eurosterling Bond Index includes fixed-rate eurosterling, global, and certain asset-backed and euro medium-term notes.

The FTSE Euroyen Bond Index includes fixed-rate euroyen, global, and certain asset-backed and euro medium-term notes.

The FTSE Eurobond Indices do not take account of ESG factors in their index design.

FTSE Eurobond Indices design criteria

Coupon	Fixed-rate, fixed-to-floating rate, and zero coupon bonds
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	Eurodollar: US agency/supranational: USD 1 billion Government/government-guaranteed/government-sponsored: USD 500 million Corporate/financial/asset-backed: USD 250 million Eurosterling: GBP 200 million Euroyen: JPY 50 billion
Minimum credit quality	BBB- by S&P or Baa3 by Moody's
Seasoning	Both seasoned and unseasoned bonds are included
Composition	Eurobonds, global bonds, certain asset-backed, and euro medium-term notes ³¹ Private placements and fixed-rate perpetual bonds are excluded.

³¹ For a medium-term note to be included, it must meet all other criteria and be publicly announced. For self-led deals, FTSE Fixed Income Indices requires the issue to be managed by a syndicate with a minimum of five members; for all other deals, FTSE Fixed Income Indices requires a minimum of three syndicate members. For the purposes of determining the amount outstanding of such an issue, all fungible issues will be combined.

	Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ³²
Market of Issue	For the Eurodollar Index, corporate bonds issued under US Rule 144a with registration rights; agency, supranational, government-sponsored and government-guaranteed bonds issued under US Rule 144a with or without registration rights, and securities issued under US Regulation-S without a corresponding 144a tranche are eligible.
Redemption features	Bullet, sinking fund, puttable, extendable, or callable

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Eurobond Indices calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	Eurodollar: June 30, 1993 Eurosterling: December 31, 1994 Euroyen: December 31, 1994

³² Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

Global indices

5.11. FTSE World Money Market Indices (WMMI)

Sovereign | Multi-currency

The FTSE World Money Market Indices (WMMI) measure the performance of money market instruments in 18 currencies. The indices track one-, two-, three-, six-, and twelve-month Eurodeposits to measure different short-term markets.

The FTSE World Money Market Indices do not take account of ESG factors in their index design.

Design criteria and calculation methodology

FTSE World Money Market Indices design criteria

Maturity	One, two, three, six and twelve months. All Eurodeposits are held to maturity. Index names are descriptive. For example, the three-month US Dollar Money Market Index comprises only three-month US Dollar Eurodeposits, and the six-month Japanese Yen Index comprises only six-month Japanese Yen Eurodeposits
Composition	Eurodeposits in the following currencies: Australian Dollar, Canadian Dollar, Czech Koruna, Danish Krone, Euro, Hong Kong Dollar, Hungarian Forint, Japanese Yen, Malaysian Ringgit, New Zealand Dollar, Norwegian Krone, Polish Zloty, Singapore Dollar, South African Rand, Swedish Krona, Swiss Franc, UK Sterling, and US Dollar

FTSE World Money Market Indices calculation methodology

Pricing	Monthly yields (bid) obtained from Refinitiv, 4:00 p.m. London time
Calculation frequency	Daily

The daily and monthly returns are calculated for each instrument in its local currency and in USD terms, using the following assumptions:

- For each index, at the beginning of each month, a fraction of the index matures and is rolled over into a new Eurodeposit of the same maturity. In any given month, a three-month index comprises three three-month Eurodeposits one maturing this month, one maturing next month and one maturing in month three. Each month, one three-month Eurodeposit matures and one three-month Eurodeposit is added. Similar logic applies to one-month, two-month, six-month, and twelve-month indices.
- The returns for any given maturity index are computed from the actual Eurodeposits that constitute the index in that particular month. For example, the October return for the three-month indices includes the return of a laddered investment with securities maturing in July, August, and September. At the end of October, the July 31 Eurodeposit matures and a new Eurodeposit is added as of October 31, to continue the ladder for future returns. More details of return computation can be found in the following sections.

- For one-month Eurodeposits, a new Eurodeposit replaces the matured Eurodeposit at the beginning of every month, and the return is the return of the maturing one-month Eurodeposit.

Local Currency Rate Computation

The return computation methodology is consistent across maturities. The steps for computing returns on three-month Eurodeposits for a given month, m are detailed below.

Step 1

Obtain the nominal three-month Eurodeposit rates (quoted on an annual basis), y_{m-i} , as of the end of the months $m-1$, $m-2$, and $m-3$.

Step 2

Convert y_{m-i} into an effective term yield (equivalent to the three-month return), e_{m-i} , for the three-month term starting on the last calendar day of month $m-i$ and ending on the last calendar date of month $m-1+3$, using the actual number of days in the term and the day-count convention of the quoted rate (360 days per year for most, but not all, Eurodeposit rates):

$$e_{m-i} = y_{m-i} \times \left(\frac{\text{Actual days in term}}{360} \right), i = 1, 2, 3$$

Step 3

Calculate the effective monthly return, r_{m-i} , which, when compounded through the length of the three-month term, equals in the effective term yield computed in Step 2:

$$r_{m-i} = (1 + e_{m-i})^{\text{Days in } m / \text{Days in 3-month term}} - 1, i = 1, 2, 3$$

Step 4

Calculate an average of the three monthly yields derived in Step 3. This is the return on three-month deposits for the month m . The same method is used to compute month-to-date returns on three-month Eurodeposits; the number of days used in Step 3 is appropriately modified.

For calculating returns for any other maturity, similar methodology is used. For example, to calculate returns for the six-month Eurodeposits for a given month m , the average of the six effective monthly returns is calculated using the six six-month Eurodeposit rates as of the end of months $m-1$, $m-2$, $m-3$, $m-4$, $m-5$, and $m-6$.

For one-month Eurodeposits, since a new Eurodeposit replaces a matured Eurodeposit at the beginning of every month, the averaging in Step 4 is omitted for calculating returns

Base currency rate computation

The following example illustrates the computation steps for local and US Dollar-based returns on a three-month Sterling Eurodeposit.

FTSE World Money Market Indices – assumed conventions and data

Conventions	Data	
Month for which returns are being computed	July 2007	
Quote convention	Yield (% / annum)	
Day-count basis	ACT/365	
Yield	April 30	5.61% (y)
	May 31	5.71% (y)
	June 30	5.86% (y)
US Dollar/UK Sterling Spot Exchange Rates	June 29	2.00635
	July 31	2.03205

I. Compute local currency return

Step 1

Calculate the effective term yield:

$$e_{April} = 5.61\% \times \left(\frac{31+30+31}{365} \right) = 1.4140\%$$

$$e_{May} = 5.71\% \times \left(\frac{30+31+30}{365} \right) = 1.4392\%$$

$$e_{June} = 5.86\% \times \left(\frac{31+30+31}{365} \right) = 1.4770\%$$

where e_{month} should be interpreted as the effective yield for the three-month return. In this case, the Eurodeposit that yielded 5.61% per annum on April 30 returns 1.4140% for the three-month term (92 days).

Step 2

Calculate the effective monthly returns:

$$r_{April} = (1 + 1.4140\%)^{\left(\frac{31}{92} \right)} - 1 = 0.4743\%$$

$$r_{May} = (1 + 1.4392\%)^{\left(\frac{31}{92} \right)} - 1 = 0.4827\%$$

$$r_{June} = (1 + 1.4770\%)^{\left(\frac{31}{92} \right)} - 1 = 0.4953\%$$

where r_{Month} is the Eurodeposit return for the 31-day month of July. For example, the April 30 Eurodeposit returned 0.4743% for the month of July. This return, in turn, compounds over 92 days to yield e_{Month} , or 1.4140%.

Step 3

Compute the average of the monthly returns from above. This is the sector return for the month in local (sterling) terms.

$$r_{avg} = \left(\frac{r_{April} + r_{May} + r_{June}}{3} \right) = 0.4841\%$$

II. Compute local currency return

$$C_{UK} = \frac{(2.03205 - 2.00635)}{2.00635} = 1.2809\%$$

III. Compute total return (in US Dollar terms)

$$R_{USD} = [(1 + 0.4841\%) \times (1 + 1.2809\%)] - 1 = 1.7712\%$$

6. Americas indices

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Americas indices

6.1. FTSE US Broad Investment-Grade Bond Index (USBIG®)

Multi-sector | US Dollar

The FTSE US Broad Investment-Grade Bond Index (USBIG) tracks the performance of US Dollar-denominated bonds issued in the US investment-grade bond market. Introduced in 1985, the index includes US Treasury, government-sponsored, collateralized, and corporate debt and provides a representation of the US investment-grade bond market.

Sub-indices are available by sector, maturity, and rating.

The FTSE US Broad Investment-Grade Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

The index includes institutionally traded US Treasury, government-sponsored (US agency and supranational), mortgage, asset-backed, and corporate investment-grade securities.

FTSE US Broad Investment-Grade Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate and zero coupon
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	US Treasuries: USD 5 billion public amount outstanding (excludes Federal Reserve holdings) US agencies and supranationals: USD 1 billion Corporate and asset-backed: USD 250 million Non-US sovereign and provincial: USD 500 million Mortgage: Entry: USD 1 billion minimum amount outstanding per origination year generic when the coupon has a minimum amount outstanding of USD 5 billion. Exit: An origination year generic will exit when its amount outstanding falls below USD 1 billion. If the amount outstanding for the coupon falls below USD 2.5 billion, all corresponding origination year generics will be removed from the index.
Minimum credit quality	BBB - by S&P or Baa3 by Moody's
Minimum denomination	Par value: USD 1,000
Composition	US Treasuries (excluding Federal Reserve purchases, inflation-indexed securities and STRIPS); US agencies (excluding callable zeros and bonds callable less than one year from issue date); supranationals; mortgage pass-throughs; asset-backed; credit (excluding bonds callable less than one year from issue date); and corporate securities issued under Rule 144A with registration rights. Private placements and fixed-rate perpetual bonds are excluded.

	Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ³³
Redemption features	Bullet, sinking fund, puttable, extendable, or callable

USBIG Corporate sector classification

Industrial Manufacturing	Aerospace/Defense, Auto Manufacturers, Building Products, Chemicals, Conglomerate/Diversified Manufacturing, Electronics, Information/Data Technology, Machinery, Metals/Mining, Paper/Forest Products, Textiles/Apparel/Shoes, Vehicle Parts, and Manufacturing - Other
Industrial Energy	Gas – Pipelines, Oil and Gas, and Oilfield Machinery and Services
Industrial Service	Cable/Media, Gaming/Lodging/Leisure, Healthcare Supply, Pharmaceuticals, Publishing, Restaurants, Retail – Food/Drugs, Retail Stores – Other, and Service – Other
Industrial Transportation	Airlines, Railroads, and Transportation – Other
Industrial Consumer	Beverage/Bottling, Consumer Products, Food Processors, and Tobacco
Industrial Other	Industrial – Other
Utility	Electric, Power, Telecommunications, Gas – Local Distribution, and Utility – Other
Finance	Banking, Independent Finance, Life Insurance, Mortgage Banking, Property and Casualty, REITs, Securities, and Finance – Other

USBIG Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Interest	Fully taxable (federal)
Yield curve	Treasury Model (off-the-run) Curve
Volatility	Non-mortgages: 10% single volatility Mortgages: Market-implied volatility (LMM Skew model)
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.

³³ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 1979

Related indices

FTSE USBIG Credit Index

This index includes US and non-US corporate securities, US government-guaranteed securities, and non-US sovereign and provincial securities.

FTSE USBIG High Grade Credit Index

This index includes those issues from the USBIG Credit Index that have at least ten years to maturity (long-term) and a minimum credit rating of AA-/Aa3.

FTSE Core +5 Index

This index is the USBIG Index excluding Treasury and government-sponsored securities with less than five years to maturity.

FTSE Core +3 Index

This index is the USBIG Index excluding Treasury and government-sponsored securities with less than three years to maturity.

FTSE US Benchmark STRIPS Indices

These indices measure the total returns of the current one-, two-, three-, five-, seven-, ten-, fifteen-, twenty-, twenty-five- and thirty-year STRIPS. These benchmarks change every three months based on their February, May, August, and November cycles. For example, benchmarks maturing in the February cycle will be used for January, February, and March returns. Due to liquidity constraints, long-term benchmark STRIPS may not change every three months.

FTSE US Treasury Benchmark (on-the-run) Indices

These indices measure total returns for the current two-, three-, five-, seven-, ten-, twenty-, and thirty-year on-the-run Treasuries that settle by the end of the calendar month. As a result of the reduced auction schedule for one-year Treasury bills, as of May 2000, an existing coupon bond with approximately one year to maturity is selected as the one-year benchmark. In most cases, this is an old two-year security.

FTSE US Treasury Benchmark Yield Curve Average Indices

These indices measure total returns for the current two-, three-, five-, seven-, ten- and twenty-year on-the-run Treasuries that settle by the end of the calendar month and the two shorter and two longer issues in the Treasury Index nearest each respective benchmark maturity. The thirty-year US Treasury Benchmark Yield Curve Average Index measures total returns for the thirty-year on-the-run Treasury that has been in existence for the entire month and the four shorter issues in the Treasury Index. Callable bonds are excluded from these indices.

FTSE US Treasury Bill Indices

These indices measure return equivalents of yield averages. The instruments are not marked to market. For example, the US Six-Month Treasury Bill Index is an average of the last six six-month Treasury bill month-end rates. Similarly,

the US One-Month and Three-Month Treasury Bill Indices consist of the last one one-month and three three-month Treasury bill month-end rates, respectively.

Example of return computation of a three-month treasury bill

Step 1: Obtain discount yields for the three previous month-end dates.

Step 2: Convert the discount rates to bond-equivalent yields.

Step 3: Compute the simple average of the bond-equivalent yields.

Step 4: De-compound to a monthly frequency using the actual number of days in the month and a 365-day year.

Conventions	Data	
Month for which returns are being computed	July 2007	
Quote convention	Discount yield converted to a bond equivalent yield	
Day-count basis	ACT/365	
Yield	April 30	4.8596%
	May 31	4.7194%
	June 29	4.8024%
Simple average of bond equivalent yields	Average	4.7938%

De-compound to a monthly frequency using the actual number of days in the return month and a 365-day year.

$$R = \left(\left(1 + \frac{4.7938}{200} \right)^{2 \times \left(\frac{31}{365} \right)} - 1 \right) \times 100 = 0.4032$$

Americas indices

6.2. FTSE US Mortgage Index

Mortgage-Backed | US Dollar

The FTSE US Mortgage Index comprises 30- and 15-year TBA deliverable pass-through mortgage backed securities (MBS) guaranteed by Freddie Mac (FHLMC), Fannie Mae (FNMA), and Ginnie Mae (GNMA). It is rebalanced each month to reflect new issuance and principal pay-downs. The index is represented by cohorts which are constructed by aggregating all mortgage pools by coupon, agency, programs and origination years.

The FTSE US Mortgage Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

Each month, “factor” information for all outstanding agency-guaranteed mortgage pools is provided by GNMA, FNMA, and FHLMC for all of their respective pools and represents the most current information available in the market. Each mortgage pool has a factor that represents the fraction of the original pool still outstanding. The outstanding amounts are aggregated, and the difference between the original and current outstanding is used to calculate the pay-down for a coupon sector. To calculate monthly pay-downs, the latest factor for the pool is subtracted from the appropriate factor from the prior tape.

FTSE US Mortgage Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum issue size	Entry: USD 1 billion minimum amount outstanding per origination year generic when the coupon has a minimum amount outstanding of USD 5 billion. Exit: An origination year generic will exit when its amount outstanding falls below USD 1 billion. If the amount outstanding for the coupon falls below USD 2.5 billion, all corresponding origination year generics will be removed from the index. Minimum amount outstanding thresholds based on coupon for Freddie Mac cohorts are applied across both Freddie Mac PCs and UMBS. ³⁴
Minimum credit quality	BBB- by S&P or Baa3 by Moody's
Composition	30- and 15-year TBA deliverable pass-through mortgage backed securities (MBS) guaranteed by Freddie Mac (FHLMC), Fannie Mae (FNMA), and Ginnie Mae (GNMA). Ginnie Mae 2 custom pools are excluded.
Index Cohort Construction	Index cohorts are constructed by aggregating mortgage pools by coupon, agency, program and origination year. Freddie Mac UMBS and Freddie Mac PCs are tracked by separate index cohorts.

³⁴ The Single Security Initiative, which was implemented on June 3, 2019, created a common mortgage-backed security (MBS) to be issued and guaranteed by either Fannie Mae or Freddie Mac, and backed by fixed-rate 30-, 20-, 15- and 10-year single-family mortgage loans. The security is called the Uniform MBS (UMBS).

FTSE US Mortgage Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Yield curve	Treasury Model (off-the-run) Curve
Volatility	Mortgages: Market-implied volatility (LMM Skew model)
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are “fixed” on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 1979

FTSE US Mortgage Index Pricing

Same day settlement prices from Refinitiv for individual MBS pools are averaged based on each pool's current amount outstanding to arrive at an index cohort price. The price for all the pools that underlie a given cohort, including both specified and non-specified pools, are included in the average. The amount outstanding each pool contributes to the average index price are updated on the same cycle as the index factor updates. Prices represent a 4pm (NY snap time) bid side valuation.

FTSE US Mortgage Index Return Methodology

The principal payment component of the total rate-of-return computation for the FTSE USBIG Mortgage Index includes both scheduled principal amortization and unscheduled principal prepayment. The FTSE USBIG Mortgage Index accounts for all mortgage payments (principal plus interest) at the end of each month to reflect the monthly cash flow characteristics inherent in the instruments.

For example, during the January measurement period, most mortgage securities generate cash flow (principal and interest). The index assumes that cash flow is reinvested at the monthly average of the daily one-month Eurodeposit rate. For the January returns, information on the January pay-down, applicable to a December 31– January 31 holding period is available by the third week of January.

The compensation investors receive for exchanging Freddie Mac PCs for UMBS issued by Freddie Mac as part of the Single Security Initiative is not reflected in index return.

Definition of Current Coupon

Each month the current coupon origination year generic for the 30-year GNMA, GNMA I, GNMA II, FNMA, FHLMC, and UMBS is selected based on the carry-adjusted price in the preliminary profile, pricing as of the fixing date and

settlement as of the last calendar day of the month. Each of the chosen current coupon origination year generics must be in the upcoming profile and is priced closest to \$100 (100% of par). For each program, the carry-adjusted price of the most recent origination year generic of each coupon is used to determine the current coupon.

Return calculation for mortgage securities

Total rate of return (%)

$$\left[\frac{(C+X)+(EP+EA) \times \left(1 - \frac{X}{100}\right)}{(BP+BA)} - 1 \right] \times 100$$

- BP: Beginning price
- EP: Ending price
- BA: Beginning accrued interest
- EA: Ending accrued interest
- X: Principal payment as percent of beginning balance
- C: Coupon rate/12

Americas indices

6.3. FTSE US Municipal Tax-Exempt Investment-Grade Bond Index

Municipal | US Dollar

The FTSE US Municipal Tax-Exempt Investment-Grade Bond Index measures the performance of the investment-grade tax-exempt municipal bond market. The index includes US Dollar- denominated bonds issued by a US state, municipality, territory or county. General Obligation bonds, Revenue bonds and Double-Barrel bonds are included.

The FTSE US Municipal Tax-Exempt Investment-Grade Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE US Municipal Tax-Exempt Investment-Grade Bond Index design criteria

Coupon	Semi-annual fixed-rate and zero coupon
Minimum maturity	At least one year. The maturity for pre-refunded bonds is calculated to the pre-refunded date, rather than the stated final maturity date.
Minimum issue size	USD 10 million
Minimum deal size	USD 75 million at the time of issuance. Securities that do not qualify for the index at issuance because they fail to meet the deal size minimum will not enter the index if deal size subsequently increases to above the stated threshold.
Minimum credit quality	BBB- by S&P or Baa3 by Moody's
Composition	Securities included: General Obligation, Revenue, and Double-Barrel bonds Pre-refunded, partial pre-refunded with newly issued CUSIPs, and escrow-to-maturity bonds Callable bonds, including make whole calls and callable bonds that have entered a thirty-day rolling call period Securities excluded: Crossover refunded bonds, bonds containing both pre-refunded and un-refunded portions with original issue CUSIPs, secondary insured bonds, monetary defaults, derivatives, letters of credit, guaranteed investment contracts, limited offerings, private placements, and convertibles
Taxability	Federally tax-exempt; may be subject to an Alternative Minimum Tax (AMT).
Dated date	Dated date must be less than two years from date of index entry. Bonds with a dated date prior to December 31, 2010 are not eligible for inclusion. In the event that a bond does not have a dated date, the issue date will be used.

FTSE US Municipal Tax-Exempt Investment-Grade Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month. Called bonds exit the index at their call price at the next monthly rebalance after the call transaction takes place.
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2012

Municipal classifications

Securities in the FTSE US Municipal Tax-Exempt Investment-Grade Bond Index are classified according to a two-tier scheme. At the broadest Municipal Class 1 Level, securities are classified as either General Obligation or Revenue. General Obligation bonds have their Municipal Class 2 assigned as "GO". Further granularity at the Municipal Class 2 Level is provided for Use of Proceeds for Revenue bonds only. The security-level codes for each classification are given in parenthesis.

FTSE US Municipal Tax-Exempt Investment-Grade Bond Index – Municipal Bond Classifications

Municipal Class 1	Municipal Class 2	Description
General Obligation (GO)	General Obligation (GO)	Includes State and Local GO bonds, and Double-Barrel bonds
Revenue (REV)	Education (EDUC)	Primary / Secondary Education; University / Higher Education; Student Loans; Education Facility / Equipment / Library; Other Education
	Healthcare (HLTH)	Hospitals; Health System Loans; Nursing Homes; Lifecare / Retirement Centers; Other HealthCare
	Housing (HSNG)	Single Family Housing; Multi-Family Housing; Single / Multi-Family Housing; New Public Housing; Other Housing
	Industrial Development (INDV)	Industrial Development; Pollution Control; Solid Waste / Resource Recovery; Economic Development; Office Buildings / Limited Partnerships; Malls / Shopping Centers; Other Industrial Development

Municipal Class 1	Municipal Class 2	Description
	Leasing (LEAS)	Leasing
	Public Services (PUBS)	Government / Public Buildings; Correctional Facilities / Jails; Fire Station / Equipment; Courts; Redevelopment / Land Clearance / Land Preservation; General Purpose / Public Improvement; Pension Funding / Retirement; Tobacco; Other Public Service
	Recreation (RECT)	Civic / Convention Centers; Stadium / Sports Complex; Recreation Facilities / Theaters / Parks / Zoos / Beaches
	Transportation (TRAN)	Airlines; Airports; Bridges / Tunnels; Mass / Rapid Transit; Parking Facilities; Seaports / Marine Terminals; Toll Roads / Streets / Highways; Other Transportation
	Utilities (UTIL)	Electric and Public Power; Flood Control / Storm Drainage; Gas; Sanitation; Telephone; Combined Utilities; Other Utilities
	Water and Sewer (WATR)	Water and Sewer
	Other (OTHS)	Agriculture / Irrigation; Veterans; Other

FTSE Russell maintains the following additional classifications and data attributes specific to municipal bonds tracked by its benchmarks:

Special tax bonds – Securities that have dedicated revenue from a Special Tax; Fuel or Vehicle Tax; or Sales or Excise Tax.

Pre-refunded bonds – Securities where the proceeds of a refunding bond issuance are used to service the debt of the underlying securities. Securities are identified as escrow-to-maturity, advanced refunded, and partial advanced refunded bonds. Escrow-to-maturity securities are redeemed on the maturity date and pre-refunded securities are redeemed on an optional redemption date (i.e., the pre-refunded date).

State – The US state or territory where the issuer of a municipal bond is domiciled. FTSE Russell publishes sub-indices by state for the top issuers in the index.

Related indices

FTSE US Municipal Tax-Exempt Investment-Grade Bond 0+ Years Index

The FTSE US Municipal Tax-Exempt Investment-Grade Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE US Municipal Tax-Exempt Investment-Grade Bond Index through to maturity. A minimum maturity of one month applies.

Americas indices

6.4. FTSE US High-Yield Market Index

Credit | US Dollar

The FTSE US High-Yield Market Index is a US Dollar-denominated index which measures the performance of high-yield debt issued by corporations where Country is assigned as Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States according to FTSE Fixed Income Methodology. Recognized as a broad measure of the North American high-yield market, the index includes cash-pay, deferred-interest securities, and debt issued under Rule 144A in unregistered form.

Sub-indices are available by sector, maturity, and rating.

The FTSE US High-Yield Market Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

The US High-Yield Market Index includes cash-pay and deferred-interest securities. All the bonds are publicly placed, have a fixed coupon, and are non-convertible. Bonds issued under Rule 144A are included in their unregistered form.

FTSE US High-Yield Market Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate and zero coupon
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	USD 250 million
Credit quality	Maximum quality: BB+ by S&P and Ba1 by Moody's Minimum quality: C by S&P and Ca by Moody's (excludes defaulted bonds)
Composition	Cash-pay, Zero-to-Full (ZTF), Pay-in-Kind (PIK), step-coupon bonds, and Rule 144A bonds issued by corporations where Country is assigned as Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States according to FTSE Fixed Income Methodology. Private placements and fixed-rate perpetual bonds are excluded. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ³⁵

³⁵ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

FTSE US High-Yield Market Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are “fixed” on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 1988

Average Spread to Worst and Average Treasury Benchmark

The average yield-to-worst is the lower of the yield-to-worst call and yield-to-maturity. The spread-to-worst is the difference between the yield-to-worst and the yield-to-maturity at the average life point on the interpolated Treasury model curve. The yield-to-worst is capped at 35% and the spread-to-worst is capped at 3,500bp.

Related indices

FTSE US High-Yield Cash Pay Index

The FTSE US High-Yield Cash-Pay Index is created by removing the bonds in the Deferred-Interest Index from the FTSE US High-Yield Market Index. It includes only cash-pay bonds (both registered and Rule 144A) with at least one year to maturity and at least USD 250 million outstanding. (Base Date: December 31, 1988).

FTSE US High-Yield Deferred-Interest Index

The FTSE US High-Yield Deferred-Interest Index includes pay-in-kind bonds (PIKs), PIK toggle bonds, zero-to-full coupon bonds (ZTFs), zero-to-maturity bonds, step-up coupon bonds, and credit sensitive notes. (Base Date: December 31, 1990).

FTSE US High-Yield Market Capped Index

The FTSE US High-Yield Market Capped Index uses the FTSE US High-Yield Market Index as its foundation. The index uses the same design criteria and calculation methodology as the FTSE US High-Yield Market Index but caps the total debt of any single issuer at USD 15 billion of par amount outstanding and also delays the entry of fallen angels for a minimum of one month after their downgrade to high-yield status.

When the total eligible par amount from one issuer exceeds USD 15 billion, the par amount of each bond from this issuer is scaled pro-rata to reduce the total to USD 15 billion. Capping the par amount outstanding of large issuers helps limit the exposure that these issuers have on the FTSE US High-Yield Market Capped Index, while retaining the characteristics of the issuer's distribution across different maturities.

The FTSE US High-Yield Market Capped Index addresses the disproportionate influence that a recently downgraded issuer can have on the index's characteristics upon entry. This is accomplished by delaying the entry of a fallen angel issuer's debt for a minimum of one month from its downgrade to high-yield status. Specifically, if both S&P and Moody's downgrade an issuer's debt to BB+ and Ba1 respectively, or below, it will be eligible for the US High-Yield Market Capped Index after a waiting period of one full calendar month. For example, if an issuer's debt is downgraded to high-yield status any day during the calendar month of May, it will be eligible for inclusion in the July FTSE US High-Yield Market Capped Index. This aspect of the criteria provides time for the market to evaluate and adjust to any credit events associated with the fallen angels. In addition, it allows investors time to assess the value and risk of fallen angels without being underweighted in any sectors in which they are included. (Base Date: December 31, 2001).

Americas indices

6.5. FTSE US Treasury STRIPS Index

Sovereign | US Dollar

The FTSE US Treasury STRIPS Index represents a comprehensive selection of long-duration market sectors. The FTSE US Treasury STRIPS Index offers a wider range of duration choices and can also be combined with a range of USBIG sectors if a core spread product exposure is desired. It has been increasingly difficult to construct long-duration benchmarks using a core that combines the FTSE USBIG Credit and Collateralized Indices, since the effective duration of the FTSE USBIG Mortgage Index is significantly shorter than that of the FTSE USBIG Credit Index. The greater choice of long-duration sectors allows investors to opt for any core holding and combine it with the appropriate STRIPS sector to reach their target durations.

The FTSE US Treasury STRIPS Index does not take account of ESG factors in its index design.

FTSE US Treasury STRIPS Index design criteria

Coupon	Zero coupon
Minimum maturity³⁶	None, but derived from bonds with a remaining maturity of at least one year.
Minimum issue size	None, but derived from bonds with at least USD 5 billion amount outstanding.
Composition	Only those STRIPS derived from bonds in the FTSE US Treasury Index are included. The coupon STRIPS with less than one year remaining to maturity, which have been derived from this set of Treasury bonds, are also included. (The FTSE US Treasury Index tracks those issues with at least USD 5 billion public amount outstanding and a remaining maturity of at least one year.) In addition, only those STRIPS from Treasury bonds maturing in the February, May, August, and November 15 cycles are included. ³⁷
Base date	December 31, 1991

FTSE US Treasury STRIPS Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month. The first week of each month, the Bureau of Public Debt makes available the Treasury market debt outstanding held in stripped form as of the previous month-end. These figures are used along with the current FTSE US Treasury Index profile to arrive at the amounts outstanding for the following month's STRIPS Index. For example, during the first week of January, the Bureau of Public Debt announced the amounts held in stripped form as of December 31. These amounts were applied to the February Index profile fixing and they were then fixed for the calendar month, and all interim returns were calculated based on its composition.

³⁶ Neither an amount outstanding cut-off nor a minimum maturity screen is imposed on the FTSE US Treasury STRIPS Index. The goal is to maintain a relatively stable universe that accommodates the broadest measure of available securities. By including coupon STRIPS with less than one year remaining to maturity, the full FTSE US Treasury STRIPS Index cash flows can be replicated closely by using bonds in the FTSE US Treasury Index.

³⁷ The bond stripping of eligible monthly Treasury auctions, along with the stripping of Treasury Inflation Protected Securities, has not created a deep enough market to ensure availability to institutional investors; therefore, these STRIPS are excluded from the index.

Cycles	Only those STRIPS derived from bonds within the February-August 15 or May-November 15 cycles.
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 1991

Americas indices

6.6. FTSE US Large Pension Fund Baseline Bond Index (USLPF)

Multi-sector | US Dollar

The FTSE US Large Pension Fund Baseline Bond Index (USLPF) provides a benchmark for pension funds seeking to establish long-term core portfolios that more closely match the longer duration of their nominal dollar liabilities. These portfolios might normally be benchmarked to the USBIG, but the USLPF improves on that structure by using fixed sector weights and a minimum maturity of seven years for non-mortgage issues. These design characteristics help satisfy the longer duration goal of pension fund portfolios, while emphasizing the traditionally higher yielding longer-term securities.

The FTSE US Large Pension Fund Baseline Bond Index does not take account of ESG factors in its index design.

Base Index Universe

FTSE US Large Pension Fund Baseline Bond Index calculation methodology

The USLPF follows the general methodology of the USBIG Index except with weighting determined as follows:

Weighting	Issues: market capitalization Sectors: fixed weight as follows: Treasury/Government-Sponsored: 40% Collateralized: 30% Credit: 30%
Base date	December 31, 1979

Americas indices

6.7. FTSE Latin American Government Bond Index (LATAMGBI)

Sovereign | Multi-currency

The FTSE Latin American Government Bond Index (LATAMGBI) comprises government bonds from five Latin American markets, denominated in local currencies. The index is a broad benchmark for sovereign Latin American markets.

Sub-indices are available in any combination of currency, maturity, and rating.

The FTSE Latin American Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

To be eligible for the LATAMGBI, markets must satisfy the market size, credit rating and market accessibility level criteria provided below. These criteria are assessed on a semi-annual basis each March and September, however, markets that no longer meet the minimum credit quality are removed from the index at the next month's profile. Announcements regarding any changes that result from the annual review are announced shortly thereafter, along with further details on implementation.

FTSE Latin American Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market Size	Entry: The outstanding amount of a market's eligible issues must total at least USD 5 billion and each market must be fully accessible to foreign investors. Exit: A market is removed if the outstanding amount of its eligible issues falls below USD 2.5 billion, half of the entry-level market size criteria.
Minimum issue size	Brazil: BRL 5 billion (excludes Central Bank of Brazil holdings) Chile: CLP 100 billion Colombia: COP 2 trillion Mexico: MXN 10 billion Peru: PEN 2 billion
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Market Accessibility Level	Minimum level of 1. For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.
Composition	Latin American sovereign debt denominated in the domestic currencies. Eligible security types by market are listed in the below table. Variable rate, floating-rate, fixed-to-floating rate, index linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Latin American Government Bond Index composition by market

LATAMGBI markets	Security type
Brazil	Excludes LTNs
Chile	N/A
Colombia	Excludes Tes Control Monetario (TCM) bonds
Mexico	Excludes bonds issued prior to January 1, 2003
Peru	N/A

FTSE Latin American Government Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Brazil, Chile, Colombia, and Peru provided by Refinitiv and Mexico provided by Proveedor Integral de Precios S.A. de C.V. For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	March 31, 2011

Related indices

FTSE Latin American Government Bond 0+ Years Index

The FTSE Latin American Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Latin American Government Bond Index through to maturity. A minimum maturity of one month applies.

7. Europe, Middle East, and Africa indices

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Europe, Middle East, and Africa indices

7.1. FTSE Euro Broad Investment-Grade Bond Index (EuroBIG®)

Multi-sector | Euro

The FTSE Euro Broad Investment-Grade Bond Index (EuroBIG) is a multi-sector benchmark for investment-grade, Euro-denominated, fixed income government, government-sponsored, collateralized, and corporate bonds.

Sub-indices are available by sector, maturity, and rating.

The FTSE Euro Broad Investment-Grade Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

The FTSE Euro Broad Investment-Grade Bond Index covers all sectors of the Euro-denominated, investment-grade, fixed income market that are accessible to institutional investors.

FTSE Euro Broad Investment-Grade Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate and zero coupon
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	Eurozone sovereign issues: EUR 2.5 billion or the equivalent for non-redenominated bonds Other: EUR 500 million or the equivalent for non-redenominated bonds
Minimum credit quality	BBB - by S&P or Baa3 by Moody's
Seasoning	Both seasoned and unseasoned bonds are included
Composition	Securities included: Issues denominated in EUR, or NCU, and Euro medium-term notes. Private placements and fixed-rate perpetual bonds are excluded. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ³⁸
Redemption features	Bullet, sinking fund, puttable, extendable, or callable

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Euro Broad Investment-Grade Bond Index calculation methodology

Weighting	Market capitalization
------------------	-----------------------

³⁸ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 1998

The asset classification of the EuroBIG reflects the current structure of the market and is in line with the structure of the FTSE World Broad Investment-Grade Bond Index (WorldBIG).

FTSE Euro Broad Investment-Grade Bond Index sector classification

Sovereign / Sovereign-Guaranteed	Government-Sponsored / Regional Government	Collateralized
Domestic Sovereign (EGBI)	Agency	Asset-Backed Securities
Foreign Sovereign	Regional Government	Covered
Sovereign-Guaranteed	Regional Government-Guaranteed	Jumbo Pfandbrief
	Regional Government-Sponsored	Other Covered
	Supranational	
	Other Sovereign-Sponsored	
Corporate – Utility	Corporate – Industrial	Corporate – Finance
Electric	Consumer	Banks
Gas	Energy	Independent Finance
Telecommunication	Manufacturing	Insurance
Other Utility	Service	Other Finance
	Transportation	
	Other Industrial	



Related indices

FTSE EMU Government Bond Index (EGBI)

The Eurozone sovereign sector of the EuroBIG is the FTSE EMU Government Bond Index (EGBI). This index is also the euro sector of the FTSE World Government Bond Index (WGBI). The EGBI consists of the Eurozone-participating countries that meet the WGBI design criteria, namely Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, and Spain.

FTSE EMU Government Bond 0+ Years Index

The FTSE EMU Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE EMU Government Bond Index through to maturity. A minimum maturity of one month applies.

FTSE Jumbo Pfandbrief Index

The FTSE Jumbo Pfandbrief Index is an integral part of the EuroBIG and represents a significant component of the German collateralized bond market. By definition, a Jumbo Pfandbrief is a Pfandbrief with at least EUR 1 billion outstanding, a fixed-rate coupon, and at least five market makers prepared to quote two-way prices during normal trading hours. Owing to their collateralization, these are high-quality securities.

Europe, Middle East, and Africa indices

7.2. FTSE Pan-European Broad Investment-Grade Index

Multi-sector | Multi-currency

The FTSE Pan-European Broad Investment-Grade Bond Index (PEUBIG) is a multi-sector, multi-currency benchmark tracking government, government-sponsored, collateralized, and corporate bonds, denominated in Euro (EUR), Swiss Franc (CHF) and UK Sterling (GBP), irrespective of market of issue.

Sub-indices are available by currency, sector, maturity, and rating.

The FTSE Pan-European Broad Investment-Grade Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Pan-European Broad Investment-Grade Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate, zero coupon and fixed-rate bonds that step up according to a predetermined schedule
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	Sovereign: Eurozone: EUR 2.5 billion Switzerland: CHF 4 billion United Kingdom: GBP 2 billion (excludes Bank of England holdings) Other: Eurozone: EUR 500 million Switzerland: CHF 300 million United Kingdom: GBP 300 million
Minimum credit quality	BBB - by S&P or Baa3 by Moody's
Composition	Bonds denominated in Euro (EUR), Swiss Franc (CHF) and UK Sterling (GBP). Private placements are excluded. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ³⁹
Redemption features	Bullet, sinking fund, puttable, extendable, or callable

³⁹ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Euro Broad Investment-Grade Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2005

Related indices

FTSE UK Broad Investment-Grade Bond Index

The FTSE UK Broad Investment-Grade Bond Index (UKBIG) forms the UK Sterling (GBP) currency sub-index of the FTSE Pan-European Broad Investment-Grade Bond Index.

FTSE UK Domestic Investment-Grade Bond Index

The FTSE UK Domestic Investment-Grade Bond Index (UKDIGBI) uses the same design criteria and calculation assumptions as the FTSE UK Broad Investment-Grade Bond Index, but with a lower minimum amount outstanding threshold of GBP 200 million for all bonds other than sovereign bonds. This provides a broader capture of the domestic UK bond market.

FTSE Swiss Broad Investment-Grade Bond Index

The FTSE Swiss Broad Investment-Grade Bond Index (CHBIG) forms the Swiss Franc (CHF) currency sub-index of the FTSE Pan-European Broad Investment-Grade Bond Index.

Europe, Middle East, and Africa indices

7.3. FTSE Pan-European High-Yield Bond Index

Credit | Multi-currency

The FTSE Pan-European High-Yield Bond Index measures the performance of high-yield corporate debt denominated in Euro (EUR), Swiss Franc (CHF), and UK Sterling (GBP). The index comprises cash-pay, zero-to-full (ZTF), pay-in-kind (PIK), and step-coupon bonds.

Sub-indices are available by sector, maturity and rating.

The FTSE Pan-European High-Yield Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Pan-European High-Yield Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate, zero-coupon
Currency	CHF, EUR, GBP
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	CHF: 100 million EUR: 200 million GBP: 150 million
Credit quality	Maximum quality: BB+ by S&P and Ba1 by Moody's Minimum quality: C by S&P and Ca by Moody's (excludes defaulted bonds)
Composition	Securities included: Cash-pay, Zero-to-Full (ZTF), Pay-in-Kind (PIK), step-coupon bonds Convertible bonds, private placements and fixed-rate perpetual bonds are excluded. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ⁴⁰

FTSE Pan-European High-Yield Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.

⁴⁰ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2012

Related indices

FTSE Euro High-Yield Bond Index

FTSE Euro High-Yield Bond Index is created to facilitate modular sub-asset class analysis and performance tracking for Euro denominated bonds.

FTSE Sterling High-Yield Bond Index

FTSE Sterling High-Yield Bond Index is created to facilitate modular sub-asset class analysis and performance tracking for Sterling denominated bonds.

FTSE Pan-European High-Yield Cash Pay Index

The FTSE European High-Yield Cash-Pay Index is created by removing the deferred-interest bonds from the FTSE European High-Yield Market Index, so that it includes only cash-pay bonds.

FTSE Pan-European High-Yield Deferred-Interest Index

The FTSE European High-Yield Deferred-Interest Index is a subset of the FTSE European High-Yield Market Index which includes pay-in-kind bonds (PIKs), PIK toggle bonds, zero-to-full coupon bonds (ZTFs), zero-to-maturity bonds, step-up coupon bonds, and credit sensitive notes.

Europe, Middle East, and Africa indices

7.4. FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index (CEEMEAGBI)

Sovereign | Multi-currency

The FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index (CEEMEAGBI) comprises government bonds from eight CEEMEA markets, denominated in local currencies. The index provides a broad benchmark for portfolio managers looking for a measure of sovereign CEEMEA markets.

Sub-indices are available by currency, maturity, and rating.

The FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

To be eligible for the CEEMEAGBI, markets must satisfy the market size, credit rating and market accessibility level criteria provided below. These criteria are assessed on a semi-annual basis each March and September, however, markets that no longer meet the minimum credit quality are removed from the index at the next month's profile. An announcement regarding any changes that result from the annual review are announced shortly thereafter, along with further details on implementation.

FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year ⁴¹
Market Size	Entry: The outstanding amount of a market's eligible issues must total at least USD 5 billion and each market must be fully accessible to foreign investors. Exit: A market is removed if the outstanding amount of its eligible issues falls below USD 2.5 billion, half of the entry-level market size criteria.
Minimum issue size	Czech Republic: CZK 15 billion Hungary: HUF 200 billion Poland: PLN 5 billion Romania: RON 500 million Russia: RUB 25 billion Türkiye: TRL 2 billion Israel: ILS 5 billion South Africa: ZAR 10 billion
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)

⁴¹ Due to the structure of the South African three-legged instruments, the minimum maturity for such instruments (e.g. R186 10.50%, 12/21/2026) is one year based on the first maturity date and the three legs from the split of these instruments will not be eligible for index inclusion. By convention, the stated maturity date of a three-legged bond is the middle maturity date

Market Accessibility Level	Minimum level of 1. For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.
Composition	Central and Eastern European, Middle Eastern, and African sovereign debt denominated in the domestic currencies. Eligible security types by market are listed in the below table. Variable rate, floating-rate, fixed-to-floating rate, index linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.

FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index composition by market

CEEMEAGBI markets	Security type
Czech Republic	Excludes zero-coupon bonds
Hungary	N/A
Israel	N/A
Poland	N/A
Romania	N/A
Russia	Includes fixed-rate bullet federal government bonds (OFZ-PD) only
South Africa	Excludes zero-coupon bonds
Türkiye	N/A

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv except for: Israel (provided by Tel Aviv Stock Exchange) ⁴² South Africa (provided by Johannesburg Stock Exchange).

⁴² The trading calendar for Israel is Sunday through-Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel's last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.

	For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	March 31, 2011

Related indices

Each of the countries included in the FTSE Central and Eastern Europe, Middle East, and Africa Government Bond Index (CEEMEAGBI) is also available as a stand-alone index.

FTSE Central Eastern Europe, Middle East, and Africa Government Bond 0+ Years Index

The FTSE Central Eastern Europe, Middle East, and Africa Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE CEEMEAGBI through to maturity. A minimum maturity of one month applies.

Europe, Middle East, and Africa indices

7.5. FTSE Middle East and North Africa Broad Bond Index (MENABBI)

Multi-sector | US Dollar

The FTSE Middle East and North Africa Broad Bond Index (MENABBI) measures the performance of both investment-grade and high-yield US Dollar-denominated debt issued by governments, agencies, and corporations domiciled in the Middle East and North Africa.

Sub-indices are available by sector, maturity, and rating.

The FTSE Middle East and North Africa Broad Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Middle East and North Africa Broad Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum issue size	USD 250 million
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Accessibility	Limited to bonds and markets that are fully accessible to foreign investors.
Composition	Investment-grade and high-yield, US Dollar-denominated debt issued by governments, agencies and corporations domiciled in the Middle East and North Africa. Zero coupon bonds; Israel Saving, Income, and Jubilee series bonds; private placements and fixed-rate perpetual bonds are excluded.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Middle East and North Africa Broad Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily



Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2010

8. Asia Pacific and Japan indices

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Asia Pacific and Japan indices

8.1. FTSE Asian Government Bond Index (AGBI)

Sovereign | Multi-currency

The FTSE Asian Government Bond Index (AGBI) comprises local currency Asian government bonds, excluding Japanese government bonds, providing a broad benchmark for the Asian sovereign market. The AGBI rules and methodologies are consistent with the FTSE World Government Bond Index (WGBI).

Sub-indices are available by currency, maturity, and rating.

The FTSE Asian Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

To be eligible for the AGBI, markets must satisfy the market size, credit rating and market accessibility level criteria provided below. These criteria are assessed on a semi-annual basis each March and September, however, markets that no longer meet the minimum credit quality are removed from the index at the next month's profile.⁴³ An announcement regarding any changes that result from the annual review are announced shortly thereafter, along with further details on implementation.

FTSE Asian Government Bond Index and related indices design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market size	<u>FTSE Asian Government Bond Index</u> Entry: The outstanding amount of a market's eligible issues must total at least USD 5 billion and each market must be fully accessible to foreign investors. Exit: A market is removed if the outstanding amount of its eligible issues falls below USD 2.5 billion, half of the entry-level market size criteria, for three consecutive months, or if the market is no longer fully accessible to foreign investors.
Minimum issue size	<u>FTSE Asian Government Bond Index</u> China: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion Hong Kong: HKD 800 million Indonesia: IDR 7.5 trillion Korea: KRW 1 trillion Malaysia: MYR 4 billion Philippines: PHP 25 billion Singapore: SGD 1.5 billion Thailand: THB 25 billion

⁴³ Prior to May 31, 2020, market size was assessed continually - if the outstanding amount of a market's eligible issues fell below half of all the entry-level market size criteria for three consecutive months, the market will be removed from the next month's profile.

	<p><u>FTSE Asian Government Extended Bond Index</u></p> <p>India: INR 250 billion (except Benchmark bonds, which are included regardless of size)</p> <p>Sri Lanka: LKR 50 billion</p> <p>Taiwan: TWD 40 billion</p> <p>For China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand, please see AGBI criteria.</p> <p><u>FTSE Asia Pacific Government Bond Index (APGBI)</u></p> <p>Australia: AUD 750 million (excludes Reserve Bank of Australia holdings)</p> <p>New Zealand: NZD 750 million (excludes Reserve Bank of New Zealand holdings)</p> <p>For China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand, please see AGBI criteria.</p>
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Accessibility	<p><u>FTSE Asian Government Bond Index</u></p> <p>Minimum level of 1.</p> <p>For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.</p>
Composition	<p>Sovereign debt from Asian countries (excluding Japan) denominated in their domestic currency. Eligible security types by market are listed in the below table.</p> <p>Variable rate, floating-rate, fixed-to-floating rate, index linked, retail directed, bills, stripped zero coupon, convertibles, savings, private placements, and fixed-rate perpetual bonds are excluded.</p>

AGBI, AGBI Extended, AGBI Investable, and APGBI composition by market

AGBI markets	Security type
Australia	Excludes tax rebate bonds
China	Excludes zero-coupon bonds, special government bonds, bonds with maturity greater than 30 years from issuance and bonds issued prior to January 1, 2005
China (Offshore)	Excludes zero-coupon bonds
Hong Kong	Excludes zero-coupon bonds
India	Includes benchmark bonds
Indonesia	Excludes Recapitalization bonds and Sukuk bonds
Korea	Excludes Monetary Stabilization bonds, Korea Housing Trust bonds, and 10-Years securities issued prior to January 1, 2003
Malaysia	Includes callable bonds Excludes Government Investment Issues (GII)

AGBI markets	Security type
New Zealand	N/A
Philippines	Excludes zero-coupon bonds and special purpose bonds
Singapore	N/A
Sri Lanka	Excludes zero-coupon bonds
Taiwan	N/A
Thailand	Excludes bonds with maturity greater than 30 years from issuance

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

AGBI and related indices calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv except for Thailand (provided by the Thai Bond Market Association “ThaiBMA”) Singapore (provided by Monetary Authority of Singapore). For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2007

Related indices

FTSE Asian Government Bond 0+ Years Index

The FTSE Asian Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Asian Government Bond Index through to maturity. A minimum maturity of one month applies.



FTSE Asian Government Bond Index – Capped (AGBI-Capped)

The FTSE Asian Government Bond Index – Capped (AGBI-Capped) imposes a maximum country weight of 20% to limit individual market exposure in the FTSE Asian Government Bond Index.

FTSE Asian Government Extended Bond Index (AGBI Extended)

The FTSE Asian Government Extended Bond Index (AGBI Extended) includes the AGBI markets – China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand – with the addition of India, Sri Lanka, and Taiwan.

FTSE Asian Pacific Government Bond Index (APGBI)

The FTSE Asia Pacific Government Bond Index (APGBI) includes the AGBI markets – China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand - with the addition of Australia and New Zealand.

These indices provide broad benchmarks of the Asian and Asian Pacific sovereign markets.

FTSE Asian Pacific Government Bond 0+ Years Index

The FTSE Asian Pacific Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Asian Pacific Government Bond Index through to maturity. A minimum maturity of one month applies.

Asia Pacific and Japan indices

8.2. FTSE Asian Broad Bond Index (ABBI)

Multi-sector | US Dollar

The FTSE Asian Broad Bond Index (ABBI) measures the performance of both investment-grade and high-yield US Dollar-denominated debt issued by governments, agencies, and corporations domiciled in Asia (excluding Japan). The ABBI provides a comprehensive measure of the Asian fixed income market across various asset classes and credit spectrum.

To be eligible for the index, securities must have a country assignment of China, Hong Kong, India, Indonesia, Macao, Malaysia, Mongolia, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand or Vietnam.

Sub-indices are available by sector, maturity, and rating.

The FTSE Asian Broad Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Asian Broad Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate, zero-coupon
Minimum maturity	At least one year Fixed-to-floating bonds are removed one year prior to the fixed-to-floating rate start date.
Minimum issue size	Government ⁴⁴ : USD 500 million Collateralized/Corporate: USD 200 million
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Composition	Investment-grade and high-yield US Dollar-denominated debt issued by governments, agencies, and corporations domiciled in Asia (excluding Japan). Private placements, convertibles and fixed-rate perpetual bonds are excluded. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ⁴⁵

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Asian Broad Bond Index calculation methodology

Weighting	Market capitalization
------------------	-----------------------

⁴⁴ Government includes foreign sovereign, sovereign-guaranteed, government-sponsored, regional government-guaranteed, and regional government-sponsored.

⁴⁵ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	September 30, 2008

Related indices

FTSE ABBI Investment-Grade Index

The FTSE ABBI Investment-Grade Index measures the performance of the investment-grade bonds included in the ABBI.

FTSE ABBI High-Yield Index

The FTSE ABBI High-Yield Index measures the performance of the high-yield bonds included in the ABBI.

Asia Pacific and Japan indices

8.3. FTSE Chinese (Onshore CNY) Broad Bond Index

Multi-sector | Chinese Yuan

The FTSE Chinese (Onshore CNY) Broad Bond Index (CNYBBI) measures the performance of the onshore Chinese yuan-denominated fixed-rate government, agency, and corporate debt issued in mainland China. The CNYBBI provides a comprehensive measure of the Chinese onshore market by expanding FTSE Russell's current coverage of government and policy banks issues to other governments, agencies, regional governments, and corporations.

The index covers a broad array of asset classes and sub-indices are available in any combination of asset class, maturity, and rating.

The FTSE Chinese (Onshore CNY) Broad Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Chinese (Onshore CNY) Broad Bond Index design criteria

Coupon	Fixed-rate
Currency	CNY
Minimum maturity	At least one year
Minimum issue size	Government: CNY 35 billion Policy Bank: CNY 15 billion Regional Government and other Government Sponsored: CNY 10 billion Others (including Panda bonds): CNY 3 billion
Minimum credit quality	No minimum S&P or Moody's rating requirements, defaulted bonds are excluded
Composition	Securities included: Fixed-rate government bonds, government sponsored bonds, regional government bonds, and corporate bonds Policy Bank: bonds issued by the China Development Bank, the Agricultural Development Bank of China, and the Export-Import Bank of China Other Chinese government sponsored: bonds issued by China Railway and Central Huijin Investment Securities excluded: Bonds with maturity greater than 30 years from issuance, and bonds issued prior to January 1, 2005. Chinese regional government bonds issued prior to April 1, 2015. Government: zero-coupon bonds, saving bonds, special government bonds. Policy Bank: central bank bills, private placements, callable and puttable bonds

Others: asset-backed and mortgage-backed securities, private placements, zero-coupon, callable, puttable, convertible

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Chinese (Onshore CNY) Broad Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2013

Related indices

FTSE Chinese (Onshore CNY) Broad Bond 0+ Years Index

The FTSE Chinese (Onshore CNY) Broad Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Chinese (Onshore CNY) Broad Bond Index through to maturity. A minimum maturity of one month applies.

FTSE Chinese (Onshore CNY) Broad Bond Index – Interbank

The FTSE Chinese (Onshore CNY) Broad Bond Index – Interbank (CNYBBI-Interbank) measures the performance of a subset of bonds from the FTSE Chinese (Onshore CNY) Broad Bond Index which tracks onshore Chinese yuan-denominated fixed-rate government, agency, and corporate debt issued in mainland China. The CNYBBI – Interbank includes bonds that are traded on the China Interbank Bond Market (CIBM). This market represents the largest trading venue by volume for onshore bonds. The Chinese (Onshore CNY) Broad Bond Index – Interbank provides a market benchmark for investors looking to establish their exposure to Chinese onshore bonds through either CIBM direct access or the Bond Connect program.

FTSE Chinese (Onshore CNY) Green Bond Index (CNYGRBI)

The FTSE Chinese (Onshore CNY) Green Bond Index (CNYGRBI) (the “Index”) measures the performance of the onshore Chinese yuan-denominated, fixed-rate governments, agencies and corporate debt issued in mainland China that are labelled “green”.

For further details on these indices, please see their respective Ground Rules.

Asia Pacific and Japan indices

8.4. FTSE Chinese Government and Policy Bank Bond Index (CNGPBI)

Multi-sector | Chinese Yuan

The FTSE Chinese Government and Policy Bank Bond Index (CNGPBI) comprises Yuan-denominated fixed-rate government bonds and policy bank bonds issued in mainland China. The eligible Chinese policy bank bonds are those issued by the China Development Bank, the Agricultural Development Bank of China, and the Export-Import Bank of China. These policy banks are state-owned and their objectives typically include providing social benefit, stimulating the economy, and supporting growing local industries. Another version of the index is also available where eligibility of securities is limited to government and policy bank bonds issued within the last 12 months.

The FTSE Chinese Government and Policy Bank Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Chinese Government and Policy Bank Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum issue size	Government: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion; Policy Bank: CNY 15 billion
Composition	Securities included: Government: fixed-rate government bonds Policy Bank: bonds issued by the China Development Bank, the Agricultural Development Bank of China, and the Export-Import Bank of China Securities excluded: Government: zero-coupon bonds, saving bonds, special government bonds, bonds with maturity greater than 30 years from issuance, and bonds issued prior to January 1, 2005 Policy Bank: central bank bills, private placements, callable and puttable bonds, bonds with maturity greater than 30 years from issuance, and bonds issued prior to January 1, 2005

FTSE Chinese Government and Policy Bank Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month

Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2010

Related indices

FTSE Chinese Government Bond Index

The FTSE Chinese Government Bond Index comprises fixed-rate government bonds issued in mainland China. To improve liquidity, any bonds with maturity greater than 30 years from issuance are excluded from the index.

Another version of the index is also available where eligibility of securities is limited to government bonds issued within the last 12 months.

FTSE Chinese Policy Bank Bond Index

The FTSE Chinese Policy Bank Bond Index comprises fixed-rate policy bank bonds issued in mainland China. The eligible Chinese policy banks are state-owned and their objectives typically include providing social benefit, stimulating the economy, and supporting growing local industries. To improve liquidity, any bonds with maturity greater than 30 years from issuance are excluded from the index.

Another version of the index is also available where eligibility of securities is limited to policy bank bonds issued within the last 12 months.

FTSE Chinese Government and Policy Bank Bond 0+ Years Index

The FTSE Chinese Government and Policy Bank Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Chinese Government and Policy Bank Bond Index through to maturity. A minimum maturity of one month applies.

Asia Pacific and Japan indices

8.5. FTSE Dim Sum (Offshore CNY) Bond Index

Multi-sector | Offshore Chinese Yuan

The FTSE Dim Sum (Offshore CNY) Bond Index measures the performance of RMB-denominated “Dim Sum” bonds issued and settled outside mainland China. The index includes fixed-rate securities issued by governments, agencies, supranationals, and corporations.

The index covers a broad array of asset classes and sub-indices are available in any combination of asset class, maturity, and rating.

The FTSE Dim Sum (Offshore CNY) Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

In the securities selection, RMB-denominated but non-RMB-settled (typically USD-settled) synthetic securities and convertible bonds are excluded from the FTSE Dim Sum (Offshore CNY) Bond Index. Retail securities, mainly issued by the Chinese government and financial institutions for retail customers, and certificates of deposits (CDs) with a limited potential issuer universe and less onerous disclosure requirements, are also excluded from the index.

FTSE Dim Sum (Offshore CNY) Bond Index design criteria

Coupon	Fixed-rate (excludes zero-coupon)
Minimum maturity	At least one year
Minimum issue size	CNH 1 billion
Minimum credit quality	No minimum S&P or Moody’s rating requirement, defaulted bonds are excluded. If an individual issue is rated by neither S&P nor Moody’s but its issuer has an S&P or Moody’s rating, the issuer’s rating is assigned to the issue as its implied rating.
Composition	RMB-denominated governments, agencies, supranationals, and credit securities excluding synthetics, convertible bonds, retail bonds (RTBs), and certificates of deposits.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Dim Sum index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.

Pricing	Government bonds: Refinitiv All other bonds: Interactive Data Pricing and Reference Data
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are “fixed” on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2010

Related indices

FTSE Dim Sum (Offshore CNY) Investment-Grade Bond Index

The FTSE Dim Sum Investment-Grade Bond Index measures the performance of investment-grade bonds in the FTSE Dim Sum (Offshore CNY) Bond Index.

FTSE Dim Sum (Offshore CNY) High-Yield Bond Index

The FTSE Dim Sum High-Yield Bond Index measures the performance of high-yield bonds in the FTSE Dim Sum (Offshore CNY) Bond Index.

FTSE Dim Sum (Offshore CNY) Not Rated Bond Index

The FTSE Dim Sum Not Rated Bond Index measures the performance of bonds in the FTSE Dim Sum (Offshore CNY) Bond Index that are unrated by S&P and Moody's.

Asia Pacific and Japan indices

8.6. FTSE Australian Broad Investment-Grade Bond Index (AusBIG®)

Multi-sector | Australian Dollar

The FTSE Australian Broad Investment-Grade Bond Index (AusBIG) is designed to represent the Australian fixed-coupon bond market, including government, semi-government, and credit markets. It covers most sectors of the investment-grade Australian Dollar-denominated fixed income market that are accessible to Australian institutional investors.

Sub-indices are available by sector, maturity, and rating.

The FTSE Australian Broad Investment-Grade Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

The index includes fixed-coupon, investment-grade bonds issued in the Australian market or semi-government bonds issued in the global market that meet other eligibility criteria.

FTSE Australian Broad Investment-Grade Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate
Minimum maturity	At least one year Fixed-to-floating bonds are removed one year prior to the fixed-to-floating rate start date
Minimum issue size	Government: AUD 750 million (excludes Reserve Bank of Australia holdings) Semi-government: AUD 250 million, including amounts issued under interest-withholding tax-free formats ⁴⁶ Corporate, supranational, agency, and collateralized: AUD 100 million
Composition	Securities included: Cash-pay, Zero-to-Full (ZTF), Pay-in-Kind (PIK), step-coupon bonds Convertible bonds, private placements and fixed-rate perpetual bonds are excluded. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ⁴⁷
Minimum credit quality	BBB- by S&P or Baa3 by Moody's
Redemption features	Bullet, callable, puttable, and extendable

⁴⁶ Such as Queensland Treasury Corporation's Global Bond Program and New South Wales Treasury Corporation's Exchangeable Program. These bonds may be exchanged at any time for ordinary bonds from the issuer.

⁴⁷ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Australian Broad Investment-Grade Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	June 30, 2000

8.7. FTSE Japanese Broad Investment-Grade Bond Index (JPBIG®)

Multi-sector | Japanese Yen

The FTSE Japanese Broad Investment-Grade Bond Index (JPBIG) is designed to measure the performance of Japanese Yen-denominated investment-grade bonds issued in the Japanese bond market. It includes fixed-rate securities issued in Japan that are accessible to both international and Japanese institutional investors. The JPBIG includes Japanese government bonds (JGB), government-related securities, mortgages and corporate debt. The index covers a broad array of asset classes and sub-indices are available in any combination of asset class, maturity, and rating.

The FTSE Japanese Broad Investment Grade Bond Index does not take account of ESG factors in its design.

Design criteria and calculation methodology

FTSE Japanese Broad Investment-Grade Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate and zero-coupon
Minimum maturity	At least one year Fixed-to-floating bonds are removed one year prior to the fixed-to-floating rate start date
Minimum issue size	JGB: JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks) Corporate, supranational, agency, regional government and collateralized: JPY 50 billion
Minimum credit quality	BBB- by S&P or Baa3 by Moody's
Composition	Securities included: Samurai bonds, FILP bonds, Pro-bonds, and only JHF Monthly MBS issued by Japan Housing Finance Agency (JHFA). Securities excluded: private placement, convertible, inflation-indexed securities, floating rate securities, fixed-rate perpetual bonds, GHLC MBS, JHF S-Series & T-Series MBS, and JGB for retail investors. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ⁴⁸
Redemption features	Bullet, sinking fund, callable, puttable, and extendable

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

⁴⁸ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

FTSE Japanese Broad Investment-Grade Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are “fixed” on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2005

Related indices

FTSE Japanese Broad Investment-Grade Bond 0+ Years Index

The FTSE Japanese Broad Investment-Grade Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE JPBIG through to maturity. A minimum maturity of one month applies.

Asia Pacific and Japan indices

8.8. FTSE Japanese Broad Bond Index (JPBBI)

Multi-sector | Japanese Yen

The FTSE Japanese Broad Bond Index (JPBBI) is designed to measure the performance of Japanese Yen-denominated bonds issued in the Japanese Bond market. It includes fixed-rate securities issued in Japan that are accessible to Japanese institutional investors. The JPBBI includes Japanese government bonds (JGB), government-related securities, mortgages and corporate debt. The index covers a broad array of asset classes and sub-indices are available in any combination of asset class, maturity, and rating.

The FTSE Japanese Broad Bond Index does not take account of ESG factors in its design.

Design criteria and calculation methodology

8.8. FTSE Japanese Broad Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate and zero-coupon
Minimum maturity	At least one year Fixed-to-floating bonds are removed one year prior to the fixed-to-floating rate start date
Minimum issue size	JGB: JPY 500 billion; 20+ year bonds: JPY 450 billion (excludes Bank of Japan holdings and Ministry of Finance buybacks) Corporate, supranational, agency, regional government and collateralized: JPY 20 billion
Minimum credit quality	BBB- by S&P, Baa3 by Moody's, or BBB- by R&I
Composition	Securities included: Samurai bonds, FILP bonds, Pro-bonds, and only JHF Monthly MBS issued by Japan Housing Finance Agency (JHFA). Securities excluded: private placement, convertible, inflation-indexed securities, floating rate securities, fixed-rate perpetual bonds, GHLC MBS, JHF S-Series & T-Series MBS, and JGB for retail investors. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ⁴⁹
Redemption features	Bullet, sinking fund, callable, puttable, and extendable

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

⁴⁹ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

FTSE Japanese Broad Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2005

Related indices

FTSE Japanese Broad Bond Index Bond 0+ Years Index

The Japanese Broad Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE JPBBI through to maturity. A minimum maturity of one month applies.

Asia Pacific and Japan indices

8.9. FTSE Indian Government Bond Index (INGBI)

Indian Rupee

The FTSE Indian Government Bond Index is designed to represent the fixed-rate, local currency Indian government bonds that are accessible to institutional investors.

Sub-indices are available by maturity, and for bonds specified under the Fully Accessible Route (FAR).

Design criteria and calculation methodology

The index includes any fixed-coupon, bonds issued in the Indian market by the government of India that meet specific amount outstanding criteria and matures in more than one year.

The FTSE Indian Government Bond Index does not take account of ESG factors in its index design.

FTSE Indian Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum issue size	Government: INR 250 billion (except Benchmark bonds, which are included regardless of size)
Composition	Indian government securities
Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	July 31, 2010

FTSE Indian Government Bond FAR Index

The FTSE Indian Government Bond FAR Index measures the performance of bonds specified under Fully Accessible Route (FAR) by the Reserve Bank of India. These bonds do not have any foreign ownership restrictions.

FTSE Indian Government Bond FAR Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum issue size	Government: INR 250 billion
Composition	Indian government securities as specified by the Reserve Bank of India and Constituent of the FTSE Indian Government Bond Index
Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	April 30, 2020

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Emerging markets indices

9.1. FTSE Emerging Markets Government Bond Index (EMGBI)

Sovereign | Multi-currency

The FTSE Emerging Markets Government Bond Index (EMGBI) tracks 17 local currency, fixed-rate government bond markets designated as Emerging based on FTSE fixed income index methodology. A country is classified to be “emerging” if it is defined by the International Monetary Fund (IMF) World Economic Outlook to be among “emerging and developing economies” or if it is defined by the World Bank (WB) to be among “low-income economies” or “lower middle-income economies” or “upper-middle-income economies”. The EMGBI rules and methodologies are consistent with those of the FTSE World Government Bond Index (WGBI) to enable performance comparisons across sovereign debt markets.

Sub-indices are available by currency, maturity, and rating.

The FTSE Emerging Markets Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

To be eligible for the EMGBI, a market must satisfy the market size, credit rating, and market accessibility criteria provided below. These criteria are assessed on a semi-annual basis each March and September, however, markets that no longer meet the minimum credit quality are removed from the index at the next month’s profile. Announcements regarding any changes that result from the semi-annual review are announced shortly thereafter, along with further details on implementation.

FTSE Emerging Markets Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Market size	The thresholds for entry and exit are as follows: Entry: The outstanding amount of a market’s eligible issues must total at least USD 10 billion for the market to be considered eligible for inclusion. Exit: To remain eligible for the index, a market must maintain a minimum market size of at least half of the entry-level market size criteria.
Minimum issue size	Americas Brazil: BRL 5 billion (excludes Central Bank of Brazil holdings) Chile: CLP 100 billion Colombia: COP 2 trillion Mexico: MXN 10 billion Peru: PEN 2 billion Europe, Middle East, and Africa Hungary: HUF 200 billion Poland: PLN 5 billion

	<p>Romania: RON 500 million</p> <p>Russia: RUB 25 billion</p> <p>Saudi Arabia: SAR 1 billion</p> <p>South Africa: ZAR 10 billion</p> <p>Türkiye: TRL 2 billion</p> <p>Asia Pacific and Japan</p> <p>China: Bonds issued before January 1 2020: CNY 100 billion; Bonds issued on or after January 1 2020: CNY 35 billion</p> <p>Indonesia: IDR 7.5 trillion</p> <p>Malaysia: MYR 4 billion</p> <p>Philippines: PHP 25 billion</p> <p>Thailand: THB 25 billion</p>
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Market Accessibility Level	<p>Minimum level of 1.</p> <p>For further details on calibration of Market Accessibility Levels, please see FTSE Fixed Income Country Classification Process.</p>
Composition	<p>Sovereign debt denominated in the domestic currency. Eligible security types by market are listed in the below table.</p> <p>Variable-rate, floating-rate, fixed-to-floating rate, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements are excluded.</p>

FTSE Emerging Markets Government Bond Index composition by market

EMGBI markets	Security type
Brazil	Excludes LTNs
Chile	N/A
China	Excludes zero-coupon bonds, special government bonds, bonds with maturity greater than 30 years from issuance and bonds issued prior to January 1, 2005
Colombia	Excludes Tes Control Monetario (TCM) bonds
Hungary	N/A
Indonesia	Excludes Recapitalization bonds and Sukuk bonds
Malaysia	<p>Includes callable bonds</p> <p>Excludes Government Investment Issues (GII)</p>
Mexico	Excludes bonds issued prior to January 1, 2003
Peru	N/A

Philippines	Excludes zero-coupon bonds and special purpose bonds
Poland	N/A
Romania	N/A
Russia	Includes fixed-rate bullet federal government bonds (OFZ-PD) only
Saudi Arabia	Includes fixed-rate government Sukuk
South Africa	Excludes zero-coupon bonds
Thailand	Excludes bonds with maturity greater than 30 years from issuance
Türkiye	N/A

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Emerging Markets Government Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv except for: Mexico (provided by Proveedor Integral de Precios S.A. de C.V.) Poland (provided by BondSpot) South Africa (provided by Johannesburg Stock Exchange) Thailand (provided by the Thai Bond Market Association “ThaiBMA”) For more information on local market close, see Figure 4.
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2007

Related indices

FTSE Emerging Markets Government Bond Index – Capped (EMGBI-Capped)

The FTSE Emerging Markets Government Bond Index – Capped (EMGBI-Capped) imposes a maximum country weight of 10% to limit individual market exposure in the FTSE Emerging Markets Government Bond Index.

FTSE Emerging Markets Government Bond 0+ Years Index

The FTSE Emerging Markets Government Bond 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Emerging Markets Government Bond Index through to maturity. A minimum maturity of one month applies.

FTSE Emerging Markets Government Bond Index – Japanese Investment Trust (EMGBI-JIT)

The FTSE Emerging Markets Government Bond Index - Japanese Investment Trust (EMGBI-JIT) is designed to serve as a benchmark for performance evaluation by Japanese investment trusts. The calculation methodology is based on the evaluation standards of the Investment Trusts Association of Japan.

Following standards of the Investment Trusts Association of Japan, EMGBI-JIT uses the telegraphic transfer middle (TTM) exchange rates provided by MUFG Bank as of mid-morning, 10:00 a.m. Tokyo time. The bonds in the EMGBI-JIT are priced as of yesterday's market close and EMGBI-JIT's return and market value calculations are the same as the non-yen securities of the World Government Bond Index – Japanese Investment Trust Index, described in detail in the appendix.⁵⁰

If a currency is not among the ones for which MUFG Bank provides TTM quotes, rates from Refinitiv are used. This follows the consistency stipulation on alternate rates of the Business Management Committee of Investment Trusts.

On rare occasions, the Japanese Ministry of Finance intervenes in foreign exchange markets. If such event occurs on the last business day after 10:00 a.m. Tokyo time and MUFG Bank officially revises the 10:00 a.m. rates, FTSE Russell will restate the last business day EMGBI-JIT returns and monthly returns if they differ significantly from the originally published returns.

Base Index Universe

The index composition is based on the global sovereign markets and constituents of the FTSE Emerging Markets Government Bond Index (EMGBI). A new market entering the EMGBI will also enter the EMGBI-JIT at the same time. Markets being removed from the EMGBI because they are subjected to EMGBI's exit criteria will also be removed from the EMGBI-JIT.

FTSE Emerging Markets Government Bond Index – Japanese Investment Trust Calculation Methodology

The methodology for the EMGBI-JIT follows the EMGBI with the exception of the differences which are highlighted in the following table.

	EMGBI-JIT	EMGBI
Exchange rate	MUFG Bank telegraphic transfer spot middle rate (TTM) as quoted at 10:00	Refinitiv — Median rate based on snapshots taken at regular

⁵⁰ For a detailed description of the market value and return calculations for non-yen sectors of the WGBI-JIT, please see Appendix 3.

	EMGBI-JIT	EMGBI
	a.m. Tokyo time. ⁵¹ In the event that TTM rates are unavailable, rates from Refinitiv are used.	intervals centered on fixing time of 4:00 p.m. London time
Pricing	Markets ex. Japan: previous trading day's local market close.	All markets: same day local market close.
Settlement Date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Base date	December 31, 2007	December 31, 2007

⁵¹ WM/Reuters quotes are used for currencies during periods in which MUFG Bank quotes are not available. Historically, WM/Reuters rates were used for Polish zloty (prior to December 2003) and Malaysian Ringgit (prior to January 2007).

Emerging markets indices

9.2. FTSE Emerging Markets Inflation-Linked Securities Index (EMILSI)

Sovereign | Multi-currency

The FTSE Emerging Markets Inflation-Linked Securities Index (EMILSI) measures the returns of inflation-linked sovereign bonds with fixed-rate coupon payments that are linked to an inflation index. The EMILSI tracks debt from seven countries denominated in seven currencies and is a valuable benchmark for investors who are concerned with real, rather than notional, returns.

Sub-indices are available in any combination of country, currency, and maturity.

The FTSE Emerging Markets Inflation-Linked Securities Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

To be eligible for the EMILSI, markets must satisfy the credit rating and market accessibility level criteria provided below. These criteria are assessed on a semi-annual basis each March and September as part of the FTSE Fixed Income Country Classification Process, however, markets that no longer meet the minimum credit quality are removed from the index at the next month's profile. Announcements regarding any changes that result from the semi-annual review are announced shortly thereafter, along with further details on implementation.

FTSE Emerging Markets Inflation-Linked Securities Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum outstanding	Brazil: BRL 1 billion (excludes Central Bank of Brazil holdings) Chile: CLF 5 million Colombia: COU 3 billion Mexico: MXV 5 billion Poland: PLN 5 billion South Africa: ZAR 500 million Türkiye: TRL 2 billion
Market Accessibility Level	Minimum level of 1. For further details on the calibration of Market Accessibility Levels, please see the FTSE Fixed Income Country Classification Process.
Minimum credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Composition	Sovereign inflation-linked debt denominated in the domestic currency. Eligible security types by market are listed in the below table. Nominal bonds, floating-rate, retail bonds, bills, and private placements are excluded.

Types of inflation-linked securities and inflation indices

Country	Inflation-linked securities	Inflation index
Brazil	NTN-B (National Treasury Notes, Series B)	IPCA: Extended Consumer Price Index, published by Instituto Brasileiro de Geografia e Estatística (IBGE)
Chile	BCU, BTU	IPC: Índice de Precios al Consumidor, published by Central Bank of Chile
Colombia	TES UVR	CPI: published by Central Bank of Colombia
Mexico	UDIBONOS (Federal Government Bonds denominated in UDI)	UDIS: Unidades de Inversión - value based on Consumer denominated in UDI) Price Index, currently published by Instituto Nacional de Estadística y Geografía (INEGI) and published by Banco de México prior to July 14, 2011
Poland	IZ- Series T-Bonds	Consumer Price Index (CPI): published by Central Statistical Office (CSO)
South Africa	Inflation-Linked bonds	Headline CPI: All items Consumer Price Index for all urban areas, published by Statistics South Africa (Stats SA)
Türkiye	CPI Indexed Bonds	CPI: General Consumer Price Index, published by Turkish Statistical Institute (TURKSTAT)

The index follows the general methodology as outlined in the Index Methodology section of this publication. In addition, the price of each issue in the index is adjusted by using an index ratio. In general, this ratio is the current index level⁵² divided by the inflation index level at the time of issue of the security. If the inflation index is published monthly, then the intra-month index ratio is calculated using linear interpolation. The calculation of an index ratio, if any, follows individual market convention.

FTSE Emerging Markets Inflation-Linked Securities Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	<p>Brazil, Chile, Colombia and Türkiye provided by Refinitiv</p> <p>Mexico provided by Proveedor Integral de Precios S.A. de C.V.</p> <p>Poland provided by BondSpot</p> <p>South Africa provided by Johannesburg Stock Exchange</p> <p>For more information on local market close, see Figure 4.</p>
Calculation frequency	Daily

⁵² The current index level is set equal to previous value; the “look-back” period is specified at the time of issuance for each individual bond.

Settlement date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	March 31, 2008

Related indices

FTSE Emerging Markets Inflation-Linked Securities 0+ Years Index

The FTSE Emerging Markets Inflation-Linked Securities 0+ Years Index tracks the universe of securities that meet the eligibility criteria for the flagship FTSE Emerging Markets Inflation-Linked Securities Index through to maturity. A minimum maturity of one month applies.

Emerging markets indices

9.3. FTSE Emerging Markets US Dollar Government Bond Index (EMUSDGBI)

Sovereign | US Dollar

The FTSE Emerging Markets US Dollar Government Bond Index (EMUSDGBI) includes US Dollar-denominated emerging market sovereign debt issued in the global, Yankee, and Eurodollar markets. The index comprises debt of more than 50 countries from Latin America, Eastern Europe, Middle East, Africa, and Asia and offers geographical diversification without exposure to local currency fluctuations.

The index covers a broad array of countries and sub-indices are available in any combination of country, maturity, and rating.

The FTSE Emerging Markets US Dollar Government Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Emerging Markets US Dollar Government Bond Index design criteria

Coupon	Fixed-rate
Minimum maturity	At least one year
Minimum issue size	USD 500 million
Minimum credit quality	Securities must have a rating from S&P or Moody's. Defaulted bonds are eligible.
Redemption features	Bullet, sinking fund, puttable, or callable
Composition	US Dollar-denominated sovereign debt issued in the global, Yankee, and Eurodollar markets. Private placements and zero-coupon bonds are excluded.

Index treatment for defaulted foreign currency government bond

In the event that one or more foreign currency government bonds fail to make a coupon payment, all foreign currency government bonds from that issuer will be retained in the index and continue to reflect updated pricing in index return calculations to the extent that it is available from the index pricing provider.

In the event of a subsequent debt restructuring, FTSE Russell will reflect the economic reality of the transaction for bond investors in the index calculations to the extent it is feasible.

Any foreign currency government bonds that are newly issued as part of a debt restructuring will be required to meet relevant index eligibility criteria to be added to the index with timing of their inclusion based on index rebalancing rules;

In the event that a defaulted foreign currency government bond market is no longer functioning and FTSE Russell deems that a market disruption event has taken place, it will reference its FTSE Fixed Income Statement of Principles to determine the appropriate index treatment for the impacted securities.

FTSE Emerging Markets US Dollar Government Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	March 31, 1995

Sector-level spread computation

Sector level spreads are computed by weighting the spreads with dollar duration as follows:

$$\text{sprd}_{\text{sector}} = \frac{\sum_{i=1}^n \text{sprd}_i \times \text{mkv}_i \times \text{spddur}_i}{\sum_{j=1}^n \text{mkv}_j \times \text{spddur}_j}$$

In this equation, n is the number of issues in the sector and for each issue; sprd is the stripped spread; mkv is the market value; and spddur is the spread duration. The product of the market value and the spread duration is referred to as the spread-dollar duration.

This methodology will calculate the average spread of a sector according to both the market value and the duration of the underlying issues within the sector. Weighting by spread-dollar duration helps to more accurately reflect changes to the value of the portfolio associated with spread curve movement by assigning a larger weight to securities with larger spread duration. For example, given two bonds of the same market value, the spread of the long-duration bond will have a larger weight in the sector-level spread than the spread of the short-duration bond.

Related indices

FTSE Emerging Markets US Dollar Government Capped Bond Index (EMUSDGBI Capped)

The FTSE Emerging Markets US Dollar Government Capped Bond Index (EMUSDGBI Capped) represents a modified version of the EMUSDGBI. It imposes a maximum par amount of USD 15 billion per country.

Additional Definitions

Spread Duration

The spread duration is a measure of relative changes in the full price because of changes in the stripped spread.

Stripped Yield

The stripped yield is calculated on cash flows reduced by any guaranteed payments of principal and interest and with the price reduced by the present value of the guaranteed payments.

Stripped Spread

The stripped spread (in basis points) over the pricing yield curve for the unguaranteed portion of a security's cash flows, is equal to the amount that when added to each of the yield curve's spot rates, makes the present value of the unguaranteed portion of the cash flows equal to the price reduced by the present value of the guaranteed payments.

Blended Yield

The blended yield is obtained from discounting both the sovereign and collateral component of future cash flows.

Blended Spread

The blended spread is the security's blended yield minus the point on the pricing yield curve at the point of the security's weighted average life, in basis points.

Cash Flow Yield

The cash flow yield is indicated by the security's full price, settlement date, and assumed cash flows.

Cash Flow Spread

The cash flow spread is the security's cash flow yield minus the yield of a suitable benchmark security, in basis points.

Emerging markets indices

9.4. FTSE Emerging Markets US Dollar Broad Bond Index (EMUSDBBI)

Multi-sector | US Dollar

The FTSE Emerging Markets USD Broad Bond Index (EMUSDBBI) measures the performance of both investment-grade and high-yield US dollar denominated debt issued by governments, regional governments, government-sponsored entities, and corporations domiciled in over 60 emerging markets. The EMUSDBBI provides a comprehensive measure of the emerging fixed income markets across various asset classes and credit sectors.

Sub-indices are available in any combination of asset class, maturity, and rating.

The FTSE Emerging Markets USD Broad Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Emerging Markets USD Broad Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate
Currency	USD
Minimum maturity	At least one year Fixed-to-floating bonds are removed one year prior to the fixed-to-floating rate start date
Minimum issue size	Foreign Sovereign: USD 500 million Sovereign Guaranteed/Government Sponsored/Regional Governments/Corporate: USD 250 million
Credit quality	C by S&P and Ca by Moody's. Non-government defaulted bonds are excluded.
Composition	Securities included: Investment-grade and high-yield US Dollar-denominated debt issued by governments, regional governments, government-sponsored entities, and corporations domiciled in emerging markets. Securities excluded: Callable zero-coupon bonds, private placements and fixed-rate perpetual bonds. Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded. ⁵³

Index Treatment for Defaulted Foreign Currency Government Bonds

⁵³ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

In the event that one or more foreign currency government bonds fail to make a coupon payment, all foreign currency government bonds from that issuer will be retained in the index and continue to reflect updated pricing in index return calculations to the extent that it is available from the index pricing provider.

In the event of a subsequent debt restructuring, FTSE Russell will reflect the economic reality of the transaction for bond investors in the index calculations to the extent it is feasible.

Any foreign currency government bonds that are newly issued as part of a debt restructuring will be required to meet relevant index eligibility criteria to be added to the index with timing of their inclusion based on index rebalancing rules.

In the event that a defaulted foreign currency government bond market is no longer functioning and FTSE Russell deems that a market disruption event has taken place, it will reference its FTSE Fixed Income Statement of Principles to determine the appropriate index treatment for the impacted securities.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Emerging Markets USD Broad Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2012

Related indices

FTSE Emerging Markets Corporate Capped Extended Broad Bond Index (EMUSDBBI Corporate Capped Ext)

The FTSE Emerging Markets Corporate Capped Extended Broad Bond Index (EMUSDBBI Corp Capped Ext) includes all the bonds in the corporate sector of the EMUSDBBI with the addition of investment-grade and high-yield debt issued by corporations domiciled in Israel and Korea. It also caps the par amount of any single issuer at USD 10 billion in order to limit exposure to any single issuer.

FTSE Emerging Markets Corporate Capped Extended Broad Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate
Currency	USD
Minimum maturity	At least one year Fixed-to-floating bonds are removed one year prior to the fixed-to-floating rate start date
Maximum issue size	USD 10 billion
Minimum issue size	USD 250 million
Credit quality	C by S&P and Ca by Moody's (excludes defaulted bonds)
Composition	Securities included: Investment-grade and high-yield US Dollar-denominated debt issued by corporations domiciled in emerging markets, Israel and Korea Securities excluded: Callable zero-coupon bonds, private placements and fixed-rate perpetual bonds

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Emerging Markets Corporate Capped Extended Broad Bond Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2012

9.5. FTSE Frontier Emerging Markets Government Bond Index Series (FRNTEMGBI)

The FTSE Frontier Emerging Markets Government Bond Index Series is designed to measure the performance of fixed-rate, local currency government bonds issued by countries classified as a Frontier Emerging Markets.

The series is comprised of:

- FTSE Frontier Emerging Markets Government Bond Index, a market-value weighted index
- FTSE Frontier Emerging Markets Government Bond 10% Capped Index, a version that caps the market value exposure of countries at 10% and redistributes the weights pro rata across other countries.

The FTSE Frontier Emerging Markets Government Bond Index Series does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Frontier Emerging Markets Government Bond Index design criteria

Coupon	Fixed-rate and zero coupon
Maturity	At least one year to maturity
Maximum Market Size	Maximum market size of \$50 billion in index-eligible par amount outstanding. For purposes of inclusion in the index series at the Index Launch in April 2021, the maximum market size was assessed as of the Index Base Date in December 2017. Countries are not excluded from the index series if they exceed the maximum market size after their inclusion.
Minimum Market Size	Minimum market size of \$5 billion in index-eligible par amount outstanding. For purposes of inclusion in the index series at the Index Launch in April 2021, the minimum market size was assessed as of this date. Countries are not excluded from the index series if they fall below minimum market size.
Credit Rating	Maximum of BBB- from S&P and Baa3 from Moody's. Countries without a long term local currency sovereign rating from Moody's or S&P are excluded. Countries are not excluded if their rating is upgraded above BBB- by S&P or Baa3 by Moody's.
Minimum amount outstanding	Bangladesh: BDT 15 billion Costa Rica: CRC 100 billion Dominican Republic: DOP 10 billion Egypt: EGP 1.5 billion Ghana: GHS 500 million Kazakhstan: KZT 50 billion Kenya: KES 15 billion Morocco: MAD 2 billion

	<p>Nigeria: NGN 10 billion</p> <p>Pakistan: PKR 20 billion</p> <p>Serbia: RSD 10 billion</p> <p>Sri Lanka: LKR 50 billion</p> <p>Ukraine: UAH 2.5 billion</p> <p>Vietnam: VND 5 trillion</p>
Composition	<p>Sovereign debt denominated in the domestic currency. Treasury bills, private placements, and securities without pricing are excluded.</p> <p>Securities issued by the Central Bank of Costa Rica and the Central Bank of Dominican Republic are included.</p> <p>Kenyan infrastructure bonds are included.</p>
World Bank Classification	Countries classified as High Income are excluded.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE Frontier Emerging Markets Government Bond Index calculation methodology

Weighting	Market capitalization and 10% country capped versions
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	<p>Refinitiv bid-side pricing.</p> <p>Snap times for each country are listed below:</p> <p>4pm New York: Costa Rica, Dominican Republic:</p> <p>4.15pm London: Egypt, Ghana, Kenya, Morocco, Pakistan, Serbia, Ukraine</p> <p>6pm London: Nigeria</p> <p>6pm Tokyo: Bangladesh, Sri Lanka, Vietnam</p>
Calculation frequency	Daily
Settlement date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	December 31, 2017

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Thematic indices

10.1. FTSE Sustainable Investment Fixed Income Indices

FTSE Sustainable Investment Fixed Income Indices

FTSE Russell offers a variety of sustainable investment fixed income indices designed to help investors integrate their sustainable investment strategy into their fixed income investments. The range of FTSE Russell indices, covering thousands of companies and the main sovereign issuers globally, are designed to meet diverse investor objectives and themes, for example, Impact, Climate, ESG, and with factor overlays.

Climate Category

FTSE Climate Risk-Adjusted Government Bond Index Series

The FTSE Climate Risk-Adjusted Government Bond Index Series is designed to measure the performance of fixed-rate, local currency, investment-grade sovereign bonds in the FTSE World Government Bond Index (WGBI) or FTSE EMU Government Bond Index (EGBI) incorporating a tilting methodology that adjusts index weights according to each countries' relative climate risk performance.

FTSE Climate World Inflation-Linked Securities index Series

The FTSE Climate Risk-Adjusted World Inflation-Linked Securities Index measures the performance of inflation-linked fixed-rate, local currency, investment-grade sovereign bonds in the FTSE World Inflation-Linked Securities Index incorporating a tilting methodology that adjusts index weights according to each country's relative exposure to climate risk, with respect to resilience and preparedness to the risks of climate change.

FTSE Climate Risk-Adjusted Carry and Roll Down (CaRD) Government Bond Index Series

The FTSE Climate Risk-Adjusted Carry and Roll Down (CaRD) Government Bond Index Series measures the performance of fixed-rate, local currency, investment-grade sovereign bonds incorporating a tilting methodology that adjusts index weights according to each countries' relative climate risk performance, while optimizing carry and roll down yields in its construction.

FTSE Nomura Climate CaRD WGBI

The index series aims to maximize the carry and roll down of the index subject to duration and country weight constraints of the Climate WGBI, supporting global fixed income investors to incorporate climate risk considerations while providing flexibility on optimizing factor variants.

FTSE Green Impact Bond Index Series

The FTSE Green Impact Bond Index Series provides a comprehensive measure of the global green bond market across various asset classes and credit sectors. The series measures the performance of both investment-grade and high-yield multi-currency green debt issued by government, government-sponsored, supranational, collateralized, and corporations.

FTSE Fixed Income ex Fossil Fuels Enhanced Index Series

The FTSE Fixed Income ex Fossil Fuels Enhanced Index Series is designed to represent the performance of securities in FTSE Fixed Income indices after the exclusion of issuers that have certain exposure to fossil fuels

FTSE Chinese (Onshore CNY) Green Bond Index

The FTSE Chinese (Onshore CNY) Green Bond Index measures the performance of the onshore Chinese yuan-denominated, fixed-rate governments, agencies and corporate debt issued in mainland China that are labelled “green”

ESG Category

FTSE Impact Bond Index Series

The FTSE Impact Bond Index Series offers a complete set of tools and benchmarks to cover the fast-growing Green, Social and Sustainability (GSS) bonds. In comparison to traditional bonds, Impact Bonds have greater transparency in their use of proceeds and project impacts, providing a vehicle for investors who are looking for investments which yield direct climate, environmental or social benefits.

FTSE Fixed Income Global Choice Index Series

The FTSE Fixed Income Global Choice Index Series measures the performance of securities in FTSE fixed income indices that exclude issuers based on their conduct or product involvement in specific sectors.

FTSE ESG Government Bond Index Series

The FTSE ESG Government Bond Index Series measures the performance of fixed-rate, local currency, investment-grade sovereign bonds incorporating a tilting methodology that adjusts index weights according to each country’s relative Environmental, Social and Governance (ESG) performance.

FTSE Euro Credit SDG-Aligned Bond Index

The FTSE Euro Credit SDG-Aligned Index is designed to align aspects of the United Nation’s Sustainable Development Goals (SDGs) to Euro-denominated credit bonds.

For further details on these indices, please see their respective Ground Rules.

Thematic indices

10.2. FTSE Debt Capacity World Government Bond Index (DCWGBI)

Sovereign | Multi-currency

The FTSE Debt Capacity World Government Bond Index (DCWGBI) measures the performance of fixed-rate, local currency, investment-grade sovereign bonds with a focus on countries with lower debt issuance relative to their gross domestic product (GDP) and stronger debt servicing capabilities. The index comprises sovereign debt from over 20 countries, denominated in a variety of currencies.

Unlike traditional indices where country weights are solely based on the market capitalization of an issuer's outstanding debt, the index also accounts for the countries' capacity to repay their debt. It is rebalanced monthly with weights based on each country's market value adjusted by scores derived from its actual Debt-to-GDP and calculated Debt Service-to-GDP ratios, both determined annually in May.⁵⁴ These factors aim to reweight the index to provide higher weights to countries that have stronger fiscal health and greater capacity to service their debt based on those two factors as proxy indicators. The index offers an alternatively-weighted broad benchmark for the global sovereign fixed income market.

The FTSE Debt Capacity World Government Bond Index does not take account of ESG factors in its index design.

Base Index Universe

The index composition is based on the global sovereign markets and constituents of the FTSE World Government Bond Index (WGBI). A new market entering the WGBI will also enter the DCWGBI at the same time. Markets being removed from the WGBI because they are subjected to WGBI's exit criteria will also be removed from the DCWGBI. The DCWGBI follows the general methodology of the WGBI.

FTSE Debt Capacity World Government Bond Index calculation methodology

Weighting	Individual country weights are determined monthly based on each country's market value adjusted by scores derived from its actual Debt-to-GDP and calculated Debt Service-to-GDP ratios, both determined annually in May. ⁵⁵ Within each country, constituents are assigned weights in proportion to their market capitalization.
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.

⁵⁴ The actual GDP and Debt-to-GDP ratios for the previous calendar year are published each year, generally in April, by the International Monetary Fund (IMF) in its World Economic Outlook (WEO).

⁵⁵ The actual GDP and Debt-to-GDP ratios for the previous calendar year are published each year, generally in April, by the International Monetary Fund (IMF) in its World Economic Outlook (WEO).

Pricing	<p>Refinitiv except for:</p> <p>Israel (provided by the Tel Aviv Stock Exchange)⁵⁶</p> <p>Mexico (provided by Proveedor Integral de Precios S.A. de C.V.)</p> <p>Poland (provided by BondSpot)</p> <p>Singapore (provided by the Monetary Authority of Singapore)</p> <p>For more information on local market close, see Figure 4.</p>
Calculation frequency	Daily
Settlement date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Fixing date	Each month, the upcoming month's index constituents are “fixed” on the profile fixing date. Each year's scheduled fixing dates are published on the website.
Base date	May 31, 2004

Weighting methodology

Individual country weights are determined monthly based on each country's market value adjusted by scores derived from its actual Debt-to-GDP and calculated Debt Service-to-GDP ratios, both determined annually in May.⁵⁷ Within each country, constituents are assigned weights in proportion to their market capitalization.

A country's actual GDP and Debt-to-GDP ratios for the previous calendar year are published each year, generally in April, by the International Monetary Fund (IMF) in its World Economic Outlook (WEO). The country's Debt Service-to-GDP ratio is computed by taking the forecasted debt payment, as represented by the principal and coupon payments due over the coming twelve months for the country's relevant bonds in the WGBI, and dividing such forecast by the country's GDP. The forecasted debt payment is computed every May by reviewing the twelve monthly index bond composition lists since last June, determining the principal and coupon payments corresponding to the bonds that were included in those twelve historical composition lists which are due to pay within the year to come and summing up such payments after converting each of them to USD terms at the prevailing FX rates. Both Debt-to-GDP and calculated Debt Service-to-GDP ratios are determined annually in May, following the IMF publication, and are used in the calculation of the index country weights in its twelve-monthly profiles thereafter.

The Debt-to-GDP and calculated Debt Service-to-GDP ratios of each country are converted into weights with lower ones assigned to the country that is more heavily indebted or with higher expected payments to service outstanding debts as a percentage of its GDP. The final weight of each country is determined as the weighted average of: i) the country's market value weight; ii) its Debt-to-GDP based weight, and iii) its Debt Service-to-GDP based weight.

⁵⁶ The trading calendar for Israel is Sunday through Thursday. Since index performance is calculated based on a Monday-Friday calendar, prices for Friday are rolled from Thursday. If Israel's last trading day of the month is a Sunday, the end-of-month pricing will be rolled from Thursday.

⁵⁷ The actual GDP and Debt-to-GDP ratios for the previous calendar year are published each year, generally in April, by the International Monetary Fund (IMF) in its World Economic Outlook (WEO).

Thematic indices

10.3. FTSE Time-Weighted US Fallen Angel Bond Index

Credit | US Dollar

The FTSE Time-Weighted US Fallen Angel Bond Index measures the performance of “fallen angels” – bonds which were previously rated investment-grade but were subsequently downgraded to high-yield.⁵⁸ The index includes US Dollar-denominated bonds issued by corporations⁵⁹ domiciled in the US or Canada that meet the inclusion criteria. Any such bonds, with a rating changed from investment-grade to high-yield in the previous month, are eligible for inclusion in the index and will be held in the index for a period of 60 months from inclusion provided they continue to meet the inclusion criteria. If a bond exits and then re-enters the index, the inclusion period is reset.

Unlike traditional indices, where constituent weights are based on market value, the index’s constituent weights are determined based on the time from inclusion in the index. Higher weights are assigned to bonds that have more recently become “fallen angels”. This time-based weighting approach aims to capture the price rebound effect that fallen angels tend to experience soon after their initial downgrade to high-yield. Furthermore, issuers’ weights are capped at 15% and constituents’ time-based weights are capped at 5 times their respective market value-based weights to help manage concentration risk.

The index provides an alternatively-weighted benchmark for the North American high-yield bond market.

The FTSE Time-Weighted US Fallen Angel Bond Index does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE Time-Weighted US Fallen Angel Bond Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate and zero coupon
Currency	USD
Minimum maturity	At least one year Fixed-to-floating rate bonds are removed one year prior to the fixed-to-floating rate start date.
Maximum inclusion period	60 months ⁶⁰
Minimum issue size	USD 250 million
Minimum credit quality	Maximum Quality: BB+ by S&P and Ba1 by Moody’s Minimum Quality: C by S&P and Ca by Moody’s (excluding defaulted bonds)

⁵⁸ The index also includes bonds that were originally rated high-yield, subsequently rated investment-grade, then downgraded again to high-yield.

⁵⁹ Includes Industrial, Utility and Finance sectors

⁶⁰ The inclusion period for each bond is measured in terms of consecutive months. The maximum inclusion period rule will be suspended should the number of issuers in the index falls below 10 to mitigate issuer concentration risk. Such suspension of the rule will be maintained until at least 10 issuers are eligible for inclusion in the index.

Composition	<p>Cash-pay, zero-to-full (ZTF), pay-in-kind (PIK), step-coupon bonds, and Rule 144A bonds issued by corporations domiciled in the United States or Canada.</p> <p>Private placements and fixed-rate perpetual bonds are excluded.</p> <p>Contingent capital securities that convert to common equity or suffer principal write-downs based on explicit balance-sheet or regulatory capital pre-specified triggers are excluded.⁶¹</p>
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FTSE Time-Weighted US Fallen Angel Bond Index calculation methodology

Weighting	<p>Constituent weights are based on the time from inclusion of the newly eligible bond in the index with higher weights assigned to bonds that have more recently become “fallen angels”. Please refer to the Weighting Methodology section for more details.</p> <p>Additionally, issuers’ weights are capped at 15% and individual bonds’ time-based weights are capped at 5 times their respective market-value based weights.</p>
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Interactive Data Pricing and Reference Data
Calculation frequency	Daily
Settlement date	<p>Monthly – Settlement is on the last calendar day of the month.</p> <p>Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.</p>
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website.
Base date	December 31, 2001

Weighting methodology

Unlike traditional indices where constituent weights are based on market value, the index’s constituent weights are determined based on the time from inclusion in the index. Any bond entering the index is given a predefined time score. Starting from the 13th month upon entering the index, the time score is gradually reduced. On each monthly rebalance, the time scores for all bonds in the index are normalized to weights that sum up to 100%. The time-based weighting methodology aims to assign higher weights to bonds that have more recently become “fallen angels”. Furthermore, issuers’ weights are capped at 15% and individual bonds’ time-based weights are capped at 5 times their respective market value-based weights to help manage concentration risk.

⁶¹ Securities that can be converted at the discretion of local regulators are eligible provided they meet other index inclusion criteria.

Thematic indices

10.4. FTSE IdealRatings Broad US Dollar Sukuk Index Series

Multi-sector | US Dollar

The FTSE IdealRatings Broad US Dollar Sukuk Index Series provides a broad measure of the performance of US Dollar denominated Sukuk issued in the global markets with at least one year to maturity. Screening of the Shariah compliance of global Sukuk is based on the methodology of IdealRatings. The series comprises:

FTSE IdealRatings Broad US Dollar Sukuk Index	A broad measure of US Dollar denominated sukuk issued in the global markets, including investment-grade, high-yield and non-rated Sukuk
FTSE IdealRatings Sukuk Index	A measure of the investment-grade sukuk in the FTSE IdealRatings Broad US Dollar Sukuk Index

Sub-indices are available based on credit quality and maturity.

The FTSE US IdealRatings Broad US Dollar Sukuk Index Series does not take account of ESG factors in its index design.

Design criteria and calculation methodology

FTSE IdealRatings Broad US Dollar Sukuk Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate, and fixed-rate Sukuk that step up according to a predetermined schedule
Minimum maturity	At least one year. Fixed-to-floating rate securities exit the index one year prior to their conversion to floating-rate.
Minimum issue size	USD 200 million
Minimum credit quality	The index includes investment-grade, high-yield, and non-rated sukuk and excludes defaulted Sukuk. Credit quality is assessed using ratings assigned by S&P and Moody's.
Composition	Securities classified as shariah compliant Sukuk based on IdealRatings shariah compliance screening methodology. Private placements and fixed-rate perpetual bonds are excluded.

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE IdealRatings Broad US Dollar Sukuk Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month

Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv
Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website. New sukuk must be issued at least 2 business days prior to the profile fixing date in order to be screened by Ideal Ratings, and therefore eligible for inclusion.
Base date	September 31, 2010

FTSE IdealRatings Sukuk Index design criteria

Coupon	Fixed-rate, fixed-to-floating rate, and fixed-rate Sukuk bonds that step up according to a predetermined schedule
Minimum maturity	At least one year. Fixed-to-floating rate securities exit the index one year prior to their conversion to floating-rate.
Minimum issue size	USD 200 million
Minimum credit quality	BBB- by S&P or Baa3 by Moody’s
Composition	Securities classified as shariah compliant Sukuk based on IdealRatings shariah compliance screening methodology. Private placements and fixed-rate perpetual bonds are excluded. Floating-rate Sukuk are not eligible for inclusion (effective April 2021).

The index follows the general methodology as outlined in the Index Methodology section of this publication. More specifically, the following calculation rules apply to the index.

FTSE IdealRatings Sukuk Index calculation methodology

Weighting	Market capitalization
Rebalancing	Once a month at the end of the month
Reinvestment of cash flow	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
Pricing	Refinitiv

Calculation frequency	Daily
Settlement date	Monthly – Settlement is on the last calendar day of the month. Daily – Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.
Fixing date	Each month, the upcoming month’s index constituents are “fixed” on the profile fixing date. Each year’s scheduled fixing dates are published on the website. New sukuk must be issued at least 2 business days prior to the profile fixing date in order to be screened by Ideal Ratings, and therefore eligible for inclusion.
Base date	September 30, 2005

Shariah Compliance Screening Methodology

Classification of a bond as a Sukuk for purposes of index inclusion is based on the research methodology of IdealRatings. The IdealRatings methodology incorporates more than 150 shariah standards to assign a pass / fail score based on a pre-determined threshold and mandatory standards set by IdealRatings (www.idealratings.com). Shariah standards are categorized into two main categories:

- 1) **General Shariah Standards** – set of general standards that are applied on all Sukuk structures;
- 2) **Structure Specific Standards** – set of standards per shariah structure, such as Ijara standards, Mudarabah standards, and Murabaha standards

Each standard is weighted, with points assigned for passing a given standard and zero points assigned for failed standards. Under the IdealRatings methodology, certain standards are mandatory – failing such standards will automatically mean that the Sukuk is not shariah-compliant and it will not be included in the index.

Sector Classification

Each bond in the index is assigned a Global Industry Code (GLIC) and Corporate Bond Sector (COBS) code, according to the FTSE Russell fixed income index classification scheme.

Sukuk that are issued on behalf of central governments are assigned a sovereign guaranteed (SGTD) Global Industry Code (GLIC), and an Agency (AGEN) Corporate Bond Sector (COBS) code. Sukuk issued on behalf of regional governments are assigned a regional government guaranteed (RGTD) GLIC code and an Agency (AGEN) COBS code. Sukuk issued on behalf of quasi-sovereign or supranational entities, are assigned a Sovereign Government-Sponsored (SGSP) GLIC code. The COBS codes assigned to quasi-sovereign and supranational Sukuk issuers are Agency (AGEN) and Supranational (SPRA) respectively. Sukuk issued by other entities are assigned corporate sector classification codes.

Thematic indices

10.5. FTSE Pension Liability Index

Pension Liability | US Dollar

The FTSE Pension Liability Index reflects the discount rate that can be used to value liabilities for GAAP reporting purposes. Along with the rate, monthly returns and durations for the index's liabilities are made available. Created in 1994, it is a widely used tool for plan sponsors and actuaries to value defined-benefit pension liabilities in compliance with the SEC's and FASB's requirements on the establishment of a discount rate. The index also provides an investment performance benchmark for asset-liability management. By monitoring the index's returns over time, investors can gauge changes in the value of pension liabilities.

The FTSE Pension Liability Index is derived from Pension Discount Curve, which is a set of yields on hypothetical AA zero coupon bonds whose maturities range from 6 months up to 30 years. The yields of the FTSE Pension Discount Curve are used to discount pension liabilities. It is calculated based on a universe of AA rated corporate bonds from the FTSE US Broad Investment-Grade Bond Index (USBIG) and the yields of the Treasury model curve produced by the Yield Book.

The FTSE Pension Liability Index does not take account of ESG factors in its index design.

Construction of the FTSE Pension Discount Curve

The FTSE Pension Discount Curve is constructed by combining two curves: the Treasury Model Curve and a double-A corporate spread curve. The Treasury Model Curve is taken from the Yield Book as is, while the double-A corporate spread curve is generated using the following steps:

1. From the FTSE USBIG Corporate Bond Index, create an universe of corporate bonds with rating of Aa1, Aa2, and Aa3 by Moody's or AA+, AA, and AA- by Standard & Poor's.
2. Remove callable bonds with less than three years of call protection and less than ten points between the earliest call price and the market price.
3. Divide the bonds into five maturity buckets: 1-3 years, 3-7 years, 7-15 years, 15-25 years, and 25+ years.
4. Within each maturity bucket, remove any bonds with an option-adjusted spread (OAS) of more than two standard deviations above the market-weighted option-adjusted spread within the bucket. The option-adjusted spread is calculated as the spread to the Treasury Model Curve.
5. Calculate the market-weighted average OAS of the remaining bonds in each maturity bucket.
6. The spread curve is then interpolated between the averages from each bucket, assuming the averages are "placed" at the mid-point of each bucket (except for the 25-30 year bucket, in which case the average is placed at the 29.5-year point).
7. Combine the spread curve with the Treasury Model Spot Curve to create a spot double-A corporate curve.

FTSE Russell offer customization options for the Pension Liability Index and Pension Discount Curve that accommodate investor-specific liability schedules, use alternate construction of the initial universe of bonds, or calculate credit exposure of pension liabilities relative to the Pension Discount Curve.

11. Appendix

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Appendix

11.1. Accessing index data via third-party redistributors

FTSE Russell makes data for its indices available through a number of third-party data and analytic vendors, and investor service providers. For further details on accessing FTSE fixed income index data through these providers, please contact info@ftserussell.com.

The tickers to access FTSE benchmarks through various third-party platforms can be found in the below table, along with the currency each return is reported in (i.e., USD, EUR, JPY, etc.) and whether it is hedged, denoted with an “H”.

Tickers for FTSE Fixed Income Indices

Global

Ticker	Index	Terms
SBWGU	World Government Bond Index	USD
SBWGEU	World Government Bond Index	EUR
SBWGJYU	World Government Bond Index	JPY
SBWGUUKU	World Government Bond Index	GBP
SBEGEU	EMU Government Bond Index	EUR
SBG5U	Group-of-Five Government Bond Index	USD
SBG5EU	Group-of-Five Government Bond Index	EUR
SBG5YU	Group-of-Five Government Bond Index	JPY
SBG7U	Group-of-Seven Government Bond Index	USD
SBG7EU	Group-of-Seven Government Bond Index	EUR
SBG7YU	Group-of-Seven Government Bond Index	JPY
SBEUEU	European World Government Bond Index	EUR
SBNUU	Non-USD World Government Bond Index	USD
SBNMEU	Non-EUR World Government Bond Index	EUR
SBWGNJYU	Non-JPY World Government Bond Index	JPY
SBWGNUKU	Non-GBP World Government Bond Index	GBP
SBWDML	World Government Bond Index – Developed Markets	LCL
SBWDMUU	World Government Bond Index – Developed Markets	USD
SBWDMEU	World Government Bond Index – Developed Markets	EUR

Ticker	Index	Terms
SBWDMGU	World Government Bond Index – Developed Markets	GBP
SBWDMYU	World Government Bond Index – Developed Markets	JPY
SBWDMSZU	World Government Bond Index – Developed Markets	CHF
SBWGEL	World Government Bond Index – Extended	LCL
SBWGEUU	World Government Bond Index – Extended	USD
SBWGEEU	World Government Bond Index – Extended	EUR
SBWGEGU	World Government Bond Index – Extended	GBP
SBWGEYU	World Government Bond Index – Extended	JPY
SBWGJL	World Government Bond Index – JIT	LCL
SBWGJJYU	World Government Bond Index – JIT	JPY
SBWAU	World Broad Investment-Grade Bond Index	USD
SBWEU	World Broad Investment-Grade Bond Index	EUR
SBWPU	World Broad Investment-Grade Bond Index	JPY
SBWKU	World Broad Investment-Grade Bond Index	GBP
SBWAAGU	World Broad Investment-Grade Agency Index	USD
SBWACPU	World Broad Investment-Grade Corporate Index	USD
SBWACOU	World Broad Investment-Grade Collateralized Index	USD
SBILUU	World Inflation-Linked Securities Index	USD
SBILEU	World Inflation-Linked Securities Index	EUR
SBILJU	World Inflation-Linked Securities Index	JPY
SBILGU	World Inflation-Linked Securities Index	GBP
SBLAL	Australian Inflation-Linked Securities Index	AUD
BLBL	Brazilian Inflation-Linked Securities Index	BRL
SBILCAL	Canadian Inflation-Linked Securities Index	CAD
SBLCL	Chilean Inflation-Linked Securities Index	CLP
SBILCOL	Colombian Inflation-Linked Securities Index	COP
SBELEU	European Inflation-Linked Securities Index	EUR
SBFRILSI	French Inflation-Linked Securities Index	EUR

Ticker	Index	Terms
SBDEILSI	German Inflation-Linked Securities Index	EUR
SBLILI	Israeli Inflation-Linked Securities Index	ILS
SBITLSI	Italian Inflation-Linked Securities Index	EUR
SBJLSI	Japanese Inflation-Linked Securities Index	JPY
SBKLL	Korean Inflation-Linked Securities Index	KRW
SBLML	Mexican Inflation-Linked Securities Index	MXN
SBILNZL	New Zealand Inflation-Linked Securities Index	NZD
SBPSL	Polish Inflation-Linked Securities Index	PLN
SBLZL	South African Inflation-Linked Securities Index	ZAR
SBILES	Spanish Inflation-Linked Securities index	EUR
SBSEILSI	Swedish Inflation-Linked Securities Index	SEK
SBLTL	Turkish Inflation-Linked Securities Index	TRL
SBGBILSI	UK Inflation-Linked Securities Index	GBP
SBUSILSI	US Inflation-Linked Securities Index	USD
SBEB	Euro Broad Investment-Grade Bond Index	EUR
SBEID	Eurodollar Bond Index	USD
SBEIS	Eurosterling Bond Index	GBP
SBEIY	Euroyen Bond Index	JPY

World Money Market

Ticker	Index	Terms
SBTMADL	12-Month Australian Dollar Eurodeposit	AUD
SBTMCDL	12-Month Canadian Dollar Eurodeposit	CAD
SBTMCKL	12-Month Czech Koruna Eurodeposit	CZK
SBTMDKL	12-Month Danish Krone Eurodeposit	DKK
SBTMEUL	12-Month Euro Eurodeposit	EUR
SBTMHDL	12-Month Hong Kong Dollar Eurodeposit	HKD
SBTMHFL	12-Month Hungarian Forint Eurodeposit	HUF

Ticker	Index	Terms
SBTMJYL	12-Month Japanese Yen Eurodeposit	JPY
SBTMMYRL	12-Month Malaysian Ringgit Eurodeposit	MYR
SBTMNDL	12-Month New Zealand Dollar Eurodeposit	NZD
SBTMNKL	12-Month Norwegian Krone Eurodeposit	NOK
SBTMPZL	12-Month Polish Zloty Eurodeposit	PLN
SBTMSDL	12-Month Singapore Dollar Eurodeposit	SGD
SBTMSRL	12-Month South African Rand Eurodeposit	ZAR
SBTMSKL	12-Month Swedish Krona Eurodeposit	SEK
SBTMSFL	12-Month Swiss Franc Eurodeposit	CHF
SBTMBPL	12-Month UK Sterling Eurodeposit	GBP
SBTMUDL	12-Month US Dollar Eurodeposit	USD

Americas

Ticker	Index	Terms
SBBIG	US Broad Investment-Grade Bond Index	USD
SBMT	USBIG Mortgage Index	USD
SBCT	USBIG Credit Index	USD
SBC2A10P	USBIG High-Grade Credit Index	USD
SBCRP	USBIG Corporate Index	USD
SBCOLL	USBIG Collateralized Index	USD
SBCORE5	Core+5 Index	USD
SBCORE3	Core+3 Index	USD
SBST	US Treasury STRIPS Index	USD
SBTSY1	1-Year US Treasury Benchmark (On-the-Run) Index	USD
SBYC5	5-Year US Treasury Benchmark Yield Curve Average Index	USD
SBMMTB1	1-Month US Treasury Bill Index	USD
SBMUTEIG	US Municipal Tax-Exempt Investment-Grade Bond Index	USD
SBHYMI	US High-Yield Market Index	USD
SBHYCP	US High-Yield Cash Pay Index	USD

Ticker	Index	Terms
SBHYDI	US High-Yield Deferred-Interest Index	USD
SBHCMCAP	US High-Yield Market Capped Index	USD
SBNLPF	US Large Pension Fund Baseline Bond Index	USD
SBLGBIL	Latin American Government Bond Index	LCL
SBLGBIU	Latin American Government Bond Index	USD
SBLGBIE	Latin American Government Bond Index	EUR
SBBRL	Brazilian Government Bond Index	BRL
SBCLL	Chilean Government Bond Index	CLP
SBCOL	Colombian Government Bond Index	COP
SBMXL	Mexican Government Bond Index	MXN
SBPUL	Peruvian Government Bond Index	PEN

Europe, Middle East, and Africa

Ticker	Index	Terms
SBCGBIL	Central and Eastern Europe, Middle East, and Africa Government Bond Index,	LCL
SBCGBIU	Central and Eastern Europe, Middle East, and Africa Government Bond Index,	USD
SBCGBIE	Central and Eastern Europe, Middle East, and Africa Government Bond Index,	EUR
SBCZL	Czech Republic Government Bond Index	CZK
SBHUL	Hungarian Government Bond Index	HUF
SBPLL	Polish Government Bond Index	PLN
SBRUL	Russian Government Bond Index	RUB
SBISL	Israeli Government Bond Index	ILS
SBTRL	Turkish Government Bond Index	TRY
SBZAL	South African Government Bond Index	ZAR
SBMENA	Middle East and North Africa Broad Bond Index	USD
SBMENAGV	Middle East and North Africa Broad Bond Index, Government	USD
SBMENACP	Middle East and North Africa Broad Bond Index, Corporate	USD

Asia Pacific and Japan

Ticker	Index	Terms
SBAGBIU	Asian Government Bond Index	USD
SBAGBIE	Asian Government Bond Index	EUR
SBAGBIY	Asian Government Bond Index	JPY
SBAGBIG	Asian Government Bond Index	GBP
SBAGBIL	Asian Government Bond Index	LCL
SBAGBEU	Asian Government Extended Bond Index	USD
SBAGBEE	Asian Government Extended Bond Index	EUR
SBAGBEY	Asian Government Extended Bond Index	JPY
SBAGBEG	Asian Government Extended Bond Index	GBP
SBAGBEL	Asian Government Extended Bond Index	LCL
SBAIU	Asian Government Bond Investable Index	USD
SBAIE	Asian Government Bond Investable Index	EUR
SBAIY	Asian Government Bond Investable Index	JPY
SBAIG	Asian Government Bond Investable Index	GBP
SBAIL	Asian Government Bond Investable Index	LCL
SBAPGBU	Asia Pacific Government Bond Index	USD
SBAPGBE	Asia Pacific Government Bond Index	EUR
SBAPGBY	Asia Pacific Government Bond Index	JPY
SBAPGBG	Asia Pacific Government Bond Index	GBP
SBAPGBL	Asia Pacific Government Bond Index	LCL
SBABBI	Asian Broad Bond Index	USD
SBABBIE	Asian Broad Bond Index	EUR
SBABBIY	Asian Broad Bond Index	JPY
SBABBIG	Asian Broad Bond Index	GBP
SBABBIIG	Asian Broad Bond Index, Investment-Grade	USD
SBABIGE	Asian Broad Bond Index, Investment-Grade	EUR
SBABIGY	Asian Broad Bond Index, Investment-Grade	JPY
SBABIGG	Asian Broad Bond Index, Investment-Grade	GBP

Ticker	Index	Terms
SBABBIHY	Asian Broad Bond Index, High-Yield	USD
SBABHYE	Asian Broad Bond Index, High-Yield	EUR
SBABHYY	Asian Broad Bond Index, High-Yield	JPY
SBABHYG	Asian Broad Bond Index, High-Yield	GBP
SBCNBBL	Chinese (Onshore CNY) Broad Bond Index	CNY
SBCNSVL	Chinese (Onshore CNY) Broad Bond Index, Sovereign	CNY
SBCNSPAL	Chinese (Onshore CNY) Broad Bond Index, Sovereign Sponsored, Agency	CNY
SBCNCPL	Chinese (Onshore CNY) Broad Bond Index, Corporate	CNY
SBCNCBL	Chinese (Onshore CNY) Broad Bond Index, China	CNY
SBCNCSVL	Chinese (Onshore CNY) Broad Bond Index, China, Sovereign	CNY
SBCNCSPA	Chinese (Onshore CNY) Broad Bond Index, China, Sovereign Sponsored, Agency	CNY
SBCNCCPL	Chinese (Onshore CNY) Broad Bond Index, China, Corporate	CNY
SBCNBIBL	Chinese (Onshore CNY) Broad Bond Index – Interbank	CNY
SBCISVL	Chinese (Onshore CNY) Broad Bond Index – Interbank, Sovereign	CNY
SBCISPAL	Chinese (Onshore CNY) Broad Bond Index – Interbank, Sovereign Sponsored, Agency	CNY
SBCICPL	Chinese (Onshore CNY) Broad Bond Index – Interbank, Corporate	CNY
SBCICBL	Chinese (Onshore CNY) Broad Bond Index – Interbank, China	CNY
SBCICSVL	Chinese (Onshore CNY) Broad Bond Index – Interbank, China, Sovereign	CNY
SBCICSPA	Chinese (Onshore CNY) Broad Bond Index – Interbank, China, Sovereign Sponsored, Agency (Policy Bank)	CNY
SBCICCPL	Chinese (Onshore CNY) Broad Bond Index – Interbank, China, Corporate	CNY
SBCNGL	Chinese Government and Policy Bank Bond Index	CNY
SBCNGU	Chinese Government and Policy Bank Bond Index	USD
SBCNL	Chinese Government Bond Index	CNY
SBCNU	Chinese Government Bond Index	USD
SBCNPL	Chinese Policy Bank Bond Index	CNY
SBCNPU	Chinese Policy Bank Bond Index	USD
SBDSBIL	Dim Sum (Offshore CNY) Bond Index	CNH

Ticker	Index	Terms
SBDSBIU	Dim Sum (Offshore CNY) Bond Index	USD
SBDSBIE	Dim Sum (Offshore CNY) Bond Index	EUR
SBDSBIH	Dim Sum (Offshore CNY) Bond Index	HKD
SBDSBIS	Dim Sum (Offshore CNY) Bond Index	SGD
SBDSBIY	Dim Sum (Offshore CNY) Bond Index	JPY
SBDSIGL	Dim Sum (Offshore CNY) Investment-Grade Bond Index	CNH
SBDSIGU	Dim Sum (Offshore CNY) Investment-Grade Bond Index	USD
SBDSHYL	Dim Sum (Offshore CNY) High-Yield Bond Index	CNH
SBDSHYU	Dim Sum (Offshore CNY) High-Yield Bond Index	USD
SBDSNRL	Dim Sum (Offshore CNY) Not Rated Bond Index	CNH
SBDSNRU	Dim Sum (Offshore CNY) Not Rated Bond Index	USD
SBABIG	Australian Broad Investment-Grade Bond Index	AUD
SBABCOL	Australian Broad Investment-Grade Collateralized Index	AUD
SBABCRP	Australian Broad Investment-Grade Corporate Index	AUD
SBABSEM	Australian Broad Investment-Grade Semi-Government Index	AUD

Emerging Markets

Ticker	Index	Terms
SBEMGBU	Emerging Markets Government Bond Index	USD
SBEMGBE	Emerging Markets Government Bond Index	EUR
SBEMGBY	Emerging Markets Government Bond Index	JPY
SBEMGBG	Emerging Markets Government Bond Index	GBP
SBEMGJL	Emerging Markets Government Bond Index – JIT	LCL
SBEMGJYU	Emerging Markets Government Bond Index – JIT	JPY
SBGIMS	Emerging Markets US Dollar Government Bond Index (EMUSDGBI)	USD
SBCGMS	Emerging Markets US Dollar Government Capped Bond Index	USD
SBEKBBI	Emerging Markets Broad Bond Index	USD
SBEKBIG	Emerging Markets Broad Bond Index, Investment-Grade	USD
SBEKBHY	Emerging Markets Broad Bond Index, High-Yield	USD

Ticker	Index	Terms
SBEKFSOV	Emerging Markets Broad Bond Index, Sovereign Guaranteed	USD
SBEKSGSP	Emerging Markets Broad Bond Index, Government Sponsored	USD
SBEKRGOV	Emerging Markets Broad Bond Index, Regional Government	USD
SBEKRGTD	Emerging Markets Broad Bond Index, Regional Government Guaranteed	USD
SBEKRGSP	Emerging Markets Broad Bond Index, Regional Government Sponsored	USD
SBEKCORP	Emerging Markets Broad Bond Index, Corporate	USD
SBEOCCE	Emerging Markets Corporate Capped Extended Broad Bond Index	USD
SBEOCIG	Emerging Markets Corporate Capped Extended Broad Bond Index, Investment-Grade	USD
SBEOCHY	Emerging Markets Corporate Capped Extended Broad Bond Index, High-Yield	USD
SBEOINDU	Emerging Markets Corporate Capped Extended Broad Bond Index, Industrial	USD
SBEOUTIL	Emerging Markets Corporate Capped Extended Broad Bond Index, Utility	USD
SBEOFIN	Emerging Markets Corporate Capped Extended Broad Bond Index, Finance	USD
SBLEUU	Emerging Markets Inflation-Linked Securities Index	USD
SBLEEU	Emerging Markets Inflation-Linked Securities Index	EUR
SBLEJU	Emerging Markets Inflation-Linked Securities Index	JPY
SBLEGU	Emerging Markets Inflation-Linked Securities Index	GBP
FRNTEMGBI	Frontier Emerging Markets Government Bond Index	USD
FRNTEMGBIC	Frontier Emerging Markets Government Bond 10% Capped Index	USD
SBLBL	Brazilian Inflation-Linked Securities Index	BRL
SBLCL	Chilean Inflation-Linked Securities Index	CLP
SBILCOL	Colombian Inflation-Linked Securities Index	COP
SBLML	Mexican Inflation-Linked Securities Index	MXN
SBPSL	Polish Inflation-Linked Securities Index	PLN
SBLZL	South African Inflation-Linked Securities Index	ZAR
SBTRL	Turkish Inflation-Linked Securities Index	TRL

Thematic

Ticker	Index	Terms
SBCWGU	Climate Risk-Adjusted World Government Bond Index	USD
SBCWGE	Climate Risk-Adjusted World Government Bond Index	EUR
SBCWGY	Climate Risk-Adjusted World Government Bond Index	JPY
SBCWGG	Climate Risk-Adjusted World Government Bond Index	GBP
SBCEGU	Climate Risk-Adjusted EMU Government Bond Index	USD
SBCEGE	Climate Risk-Adjusted EMU Government Bond Index	EUR
SBCEGY	Climate Risk-Adjusted EMU Government Bond Index	JPY
SBCEGG	Climate Risk-Adjusted EMU Government Bond Index	GBP
SBCWXJY	Climate Risk-Adjusted World Government Bond Index ex Japan	JPY
SBACWGU	Advanced Climate Risk-Adjusted World Government Bond Index	USD
SBACWGE	Advanced Climate Risk-Adjusted World Government Bond Index	EUR
SBACWGY	Advanced Climate Risk-Adjusted World Government Bond Index	JPY
SBACWGG	Advanced Climate Risk-Adjusted World Government Bond Index	GBP
SBACEGU	Advanced Climate Risk-Adjusted EMU Government Bond Index	USD
SBACEGE	Advanced Climate Risk-Adjusted EMU Government Bond Index	EUR
SBACEGY	Advanced Climate Risk-Adjusted EMU Government Bond Index	JPY
SBACEGG	Advanced Climate Risk-Adjusted EMU Government Bond Index	GBP
SBDWU	Debt Capacity World Government Bond Index	USD
SBDWE	Debt Capacity World Government Bond Index	EUR
SBDWY	Debt Capacity World Government Bond Index	JPY
SBDWG	Debt Capacity World Government Bond Index	GBP
SBUSTWFA	Time-Weighted US Fallen Angel Bond Index	USD
SBKBU	FTSE IdealRatings Broad US Dollar Sukuk Index	USD
SBKU	FTSE IdealRatings Sukuk Index	USD
CRFDMU	FTSE RAFI Sovereign Developed Markets Bond Index Master	USD
CRFDU	FTSE RAFI Sovereign Developed Markets Bond Index Liquid	USD

Appendix

11.2. Index currency returns and hedging methodology

Currency-hedged returns calculation

In addition to returns expressed in local currency terms, the fixed income indices returns are also computed in base currency terms, with and without the effects of currency hedging. The monthly currency-hedged returns are based on the assumption of a rolling strategy of buying the foreign currency at the beginning of each month and selling the foreign currency one-month forward. The source for spot and forward rates is the published Refinitiv closing rates.

The convention used in the foreign exchange market for computing and quoting one-month forward rates results, from time to time, in a forward period that is longer (never shorter) than the actual number of calendar days in the month in question. This is inconsistent with the common index convention of using last-calendar-day settlement for the calculation of accrued and re-investment income in computing monthly returns.

Furthermore, the use of one-month forwards poses philosophical questions relating to the interpretation of intra-month currency-hedged returns.

To address and simplify both of these issues, FTSE Russell calculates monthly and intra-month currency-hedged returns.

Spot settlement convention

Spot rates quoted on the screen are for settlement on a day that is calculated using the following steps:

1. The date on which the quotes are displayed is taken to be the trade date;
2. Spot settlement date is two days after the trade date in the local (non-USD) currency. It must be a valid trading and settlement date for both currencies; furthermore, the intervening days must be valid trading and settlement dates for the local currency.⁶²

One-month forward settlement convention

One-month forward rates quoted on the screen are for settlement on a day that is calculated using the following steps:

1. The date on which the quotes are displayed is taken to be the trade date.
2. Spot settlement date is calculated as above.
3. Move forward from the spot settlement date to the same date in the following calendar month.
4. If this is a valid settlement date in BOTH currencies, then it is the forward settlement date.
5. If it is not, then the forward settlement date is the first date after that which is valid for both currencies.

Thus from step 5, it is clear that, from time to time, the number of calendar days between the spot settlement date and the forward settlement date will exceed (but never be less than) the number of calendar days in the month.

Take the USD/CAD one-month forward contract for the month of August 2010 as an example. For the month-end currency forward rates quoted on July 31, 2010, the spot settlement date is August 4, 2010. Because September 4 and 5, 2010 is the weekend and September 6 is a Canadian holiday, the settlement date for the one-month

⁶² Prior to February 1, 2011, the spot settlement date must be a valid trade and settlement date for both currencies but the intervening days only needs to be a valid trade date for the local currency, it does not have to be a valid settlement date.

forward contract is “bumped” to September 7, 2010. Thus, the number of calendar days between the spot settlement date and the forward settlement date is 34 days, in contrast to the 31 calendar days in August 2010.

Impact on monthly returns

The effect of this “bumping” of settlement dates is material because the difference between the quoted spot and forward rates (“the drop”) is calculated by applying the one-month interest rates in each currency, over the actual number of days between the two settlement dates and not over the number of calendar days in the month. The implicit assumption in the monthly currency-hedged returns is that the foreign currency is purchased spot at the beginning of the month and sold forward to the end of the month and, furthermore, that the following month’s spot purchase coincides with the previous month’s forward sale. Due to the incorporation of settlement day “bumping” into the calculation of the quoted forward rates, the forward drops will occasionally exaggerate the correct calendar-based premium or discount of a true calendar month hedge. The extent of this impact will depend on the number of instances when “bumping” occurs in any given year and the magnitude of the difference between the two currencies’ short-term interest rates. In any one month, however, the difference rarely exceeds 1-2 basis points.

Adjusting the forward rates

In order to correct for the “bumping” of settlement dates effect, the published forward drops will be adjusted for the US Dollar-based forward rates to reflect a drop that corresponds to the number of actual calendar days in the month. This will be achieved by determining the number of “convention” days used to calculate the published drops and then scaling the drops by the ratio of the number of days in the month to the number of “convention” days. This scaled drop will then be applied to the quoted spot rate to produce the adjusted one-month forward rate. The adjusted forward rates will also be used to derive adjusted forward cross rates. The following table illustrates this process.

Adjustment of USD/CAD one-month forward rate for August 2010	
Spot: 1.02995	Spot settlement date: August 4, 2010
Forward: 1.03032	Forward settlement date: September 7, 2010
Forward drop (%): -0.0359	Drop days: 34
Days in calendar month for August: 31	
Adjust forward drop = $-0.00037 \times 31/34 = -0.000337$	
Adjust forward rate = $1.02995 + 0.000337 = 1.030287$	
Adjust forward drop (%) = -0.03275	

Source: Refinitiv as of July 30, 2010

The spot and forward settlement dates and the adjustment factor are published monthly. They are available by subscription on the website, (www.yieldbook.com/m/indices).

Month-to-date and daily currency hedged returns

Intra-month index levels and returns are helpful for return attribution calculations when money enters or leaves the benchmarked portfolio but they pose the following philosophical dilemma:

- a. Should the month-to-date return on the 10th, for example, be calculated as if one had hedged only 10 days forward – as if planning to liquidate the fund on the 10th?
- b. Should the return from the 10th of the month to the end of the month reflect the effect of a forward hedge entered into on the 10th out to the end of the month – as if setting up the fund on the 10th?
- c. Should the daily currency-hedged return on the 10th of the month reflect only an overnight “forward” contract entered into on the 9th?

It is evident that a single time series of intra-month index levels cannot incorporate more than one of these.

The month-to-date returns and index levels are calculated to reflect approach (a) (e.g. for the 10th of the month, as if a 10-day forward had been entered into at the beginning of the month). Rather than derive the 10-day forward rate from the forward rate term structure at the end of the previous month, the one-month drop (adjusted when necessary to a calendar month, as described earlier) will simply be scaled to a 10-day drop and the 10-day forward rate will be computed using this. Thus, the intra-month forward rates will linearly converge to the rate used for the full month. This will have a minimal impact on the month-to-date returns and these will still converge to the monthly returns.

The daily currency-hedged returns are calculated simply as the ratio of successive daily month-to-date returns, as described in the previous paragraph. This, by construction, ensures consistency between successive month-to-date returns and the daily returns and that daily returns compound to the monthly return.

How much is hedged?

Clearly, one cannot know at the beginning of the period what the market value of a security holding will be at the end of the period. Instead, an assumption must be made: sell this amount forward and convert any end-of-period excess or shortfall at the end of period spot rate.

Below is a summary of the methodology determining the amount of foreign currency sold forward for each security:

1. Reduce the par amount of the bond by any sinking fund payments, calls, prepays, etc.
2. Allow for these cash receipts plus any re-investment income on these amounts to the end-of-period date.
3. Add any coupons that will be paid during the period, together with re-investment income.
4. Re-price the remaining par amount, using the beginning-of-month yield and the end-of-period date as the new settlement date, including Accrued Interest on this date.
5. The sum of these amounts (2, 3 and 4) will be the amount of foreign currency sold forward.
6. This amount, converted back to base currency at the appropriate forward rate to give the “assumed hedged value”, will be the predominant component of the end-of-period value in currency-hedged base-currency terms.

If the actual end-of-period price is higher than this assumed price, the excess in foreign currency is converted back to the base currency at the end-of-period spot rate and added to the assumed hedged value. If the price is lower, the shortfall is converted back to base currency at the end-of period spot rate and subtracted from the assumed hedged value. This gives the actual end-of-period hedged value.

The beginning-of-month value is the full market value of the security converted to the base currency at the beginning-of-month spot rate. The currency-hedged month-to-date return is the ratio of the end-of-period hedged value and beginning-of-month value, minus 1.

It is worth pointing out that the approach described in Step 4 does mean that the size of the hedge used in calculating the month-to-date currency-hedged return for, say, the 10th of the month is different from the size of hedge used in calculating the month-to-date currency-hedged return for the 20th of the month, and different again from that used for the full month. As noted earlier, the forward rate used for each of these dates is also different. Both of these effects are consistent with the idea that the month-to-date returns should reflect an intention to hedge only out to the date in question.

Appendix

11.3. Market value and return calculations for the WGBI-JIT

Market value and return calculations for non-yen sectors of the WGBI-JIT

Japanese yen sectors are calculated using current WGBI methodology. The following notations are used in the formulas. The WGBI and WJIT refer to the non-yen component of the index.

Notation	
T	Today
M	Current month
E	Last business day of previous month
WGBI_MODDUR	WGBI modified duration
WGBI_RORP	WGBI daily principal return
WGBI_MTDROP	WGBI month-to-date principal return
WGBI_MTDROI	WGBI month-to-date income return
WJIT_RORP	WGBI-JIT daily principal return
WJIT_MTDROP	WGBI-JIT month-to-date principal return
WJIT_MTDROI	WGBI-JIT month-to-date income return
WJIT_MTDORT	WGBI-JIT month-to-date total return

Market value computation

For the WGBI, the current month's index profile market value is calculated using the prices of the last business day of the previous month for all its constituents. For the WGBI-JIT, the market value is adjusted by the principal returns and the modified duration.

$$WJIT_MKV(m) = \frac{WGBI_MKV(m)}{1 + \left(\frac{WGBI_RORP(e)}{100} \times \frac{WGBI_MODDUR(m)}{WGBI_MODDUR(e)} \right)}$$

Return computation

The returns are computed by modifying the previous day's principal return as well as the current day's income return.

Month-to-date returns in local currency terms

Step 1: Calculate the first business day principal return

The first business day principal return is calculated based on the last business day principal return of the previous month. The last business day principal return is adjusted by a duration ratio to account for the change in portfolio.^{63, 64}

$$WJIT_RORP(1) = WGBI_RORP(e) \times \left(\frac{WGBI_MODDUR(m)}{WGBI_MODDUR(e)} \right)$$

Step 2: Calculate the month-to-date principal return

The month-to-date principal return is calculated by compounding the previous day's WGBI_MTDROP and the first business day's WJIT_RORP. This is equivalent to shifting the prices of all securities by one day.

$$WJIT_MTDRORP(t) = WJIT_RORP(1) + WGBI_MTDRORP(t-1) \times \left[1 + \left(\frac{WJIT_RORP(1)}{100} \right) \right]$$

Step 3: Calculate the month-to-date income return

The month-to-date income return is calculated based on the current month's market value at the beginning of the month. It is adjusted by the first business day principal return.

$$WJIT_MTDRORP(t) = WGBI_MTDRORI(t) \times \left[1 + \left(\frac{WJIT_RORP(1)}{100} \right) \right]$$

Step 4: Calculate the month-to-date total return

The total return is the sum of the month-to-date WGBI-JIT principal and income returns.

$$WJIT_MTDRORT(t) = WGBI_MTDRORP(t) + WJIT_MTDRORI(t)$$

Month-to-date total return in JPY terms

The WGBI-JIT uses the same standard calculation to convert the local currency returns to base currency returns. The exchange rates used are the telegraphic transfer middle (TTM) rates provided by Bank of Tokyo–Mitsubishi UFJ. If the TTM rates are not available, the Refinitiv rates are used.

$$WJIT_MTDRORT(t)_{JPY} = \left\{ \left[1 + \left(\frac{WJIT_MTDRORT(t)_{LCL}}{100} \right) \right] \times \left[1 + \left(\frac{CRCY_RTN(t)_{TTM}}{100} \right) \right] - 1 \right\} \times 100$$

Daily total return in local currency terms

Daily total return is calculated using today's and the previous day's month-to-date returns.

$$WJIT_RORT(t) = \left\{ \left[\frac{\left(1 + \frac{WJIT_MTDRORT(t)}{100} \right)}{1 + \frac{WJIT_MTDRORT(t-1)}{100}} \right] - 1 \right\} \times 100$$

Estimate daily return of the non-yen WGBI-JIT: calculation methodology

The Non-Yen WGBI-JIT estimate daily return is calculated based on the previous day's WGBI Month-to-Date Total Return and today's TTM exchange rates, provided by the MUFG Bank at 10:00 a.m. JST.

For the first business day estimate daily return calculation, the previous day's return is simply the WGBI principal return of the last business day of the previous month. For subsequent days, the previous day's return is the WGBI

⁶³ Prior to January 1999, WGBI_MODDUR(e) was not available, therefore the default ratio is set to 1.

⁶⁴ If WGBI_RORP(e) is not available, WJIT_RORP(1) is set to 0.0. For example, the initial principal returns for PL_TSY and MY_TSY is set to 0.0 because these sectors start after the WGBI-JIT inception date of December 31, 1996.

principal return of the last business day of the previous month plus the previous day's WGBI Month-to-Date Total Return.

Step 1: Calculate the currency return using 10:00 a.m. JST TTM rates

$$\text{Currency_Return}_{\text{Today,LCL:Base}} = \left(\frac{\text{TTM}_{\text{Today}} - \text{TTM}_{\text{EOM}}}{\text{TTM}_{\text{EOM}}} \right) \times 100$$

TTM_{BOM} = TTM rate as of the beginning of month

$\text{TTM}_{\text{Today}}$ = TTM rate as of 10:00 a.m. JST today

Step 2: Estimate month-to-date total return in JPY terms

For the first business day:

$$\text{EST_MTD_RORT}_{\text{Today,JPY,WJIT}} = \left[\left(1 + \frac{\text{RORT}_{\text{EOM,LCL,WGBI}}}{100} \right) \times \left(1 + \frac{\text{CRCY_RTN}_{\text{Today,LCL:Base}}}{100} \right) - 1 \right] \times 100$$

For second business day onward:

$\text{EST_MTD_RORT}_{\text{Today,JPY,WJIT}} =$

$$\left[\left(1 + \frac{(\text{RORP}_{\text{EOM,LCL,WGBI}} + \text{MTD_RORT}_{\text{PrevDay,LCL,WGBI}})}{100} \right) \times \left(1 + \frac{(\text{CRCY_RTN}_{\text{Today,LCL:Base}})}{100} \right) - 1 \right] \times 100$$

$\text{RORP}_{\text{EOM,LCL,WGBI}}$ = WGBI previous month's last day principal return in local currency terms

$\text{MTD_RORT}_{\text{PrevDay,LCL,WGBI}}$ = WGBI previous day's month-to-date total return in local currency terms

$\text{CRCY_RTN}_{\text{Today,LCL:Base}}$ = from Step 1

Step 3: Estimate daily return in JPY terms

$$\text{EST_DAILY_RORT}_{\text{Today,JPY,WJIT}} = \left[\frac{\left(1 + \frac{\text{EST_MTD_RORT}_{\text{Today,JPY,WJIT}}}{100} \right)}{\left(1 + \frac{\text{MTD_RORT}_{\text{PrevDay,JPY,WJIT}}}{100} \right)} - 1 \right] \times 100$$

$\text{EST_MTD_RORT}_{\text{Today,JPY,WJIT}}$ = from step 2

$\text{MTD_RORT}_{\text{PrevDay,JPY,WJIT}}$ = WGBI-JIT previous day's month-to-date total return in JPY terms

Step 4: Estimate month-to-date return for the non-yen WGBI-JIT in JPY terms

$$\text{EST_MTD_RORT}_{\text{Today,JPY,WJIT}} = \frac{(\sum_{i=1}^N \text{EST_MTD_RORT}(i)_{\text{Today,JPY,WJIT}} \times \text{MKV}(i)_{\text{BOM}})}{\sum_{i=1}^N \text{MKV}(i)_{\text{BOM}}}$$

i = each country in the non-yen WGBI-JIT

$\text{MKV}(i)_{\text{BOM}}$ = Beginning-of-month market value of each country.

Appendix

11.4. Glossary of terms

Index terminology

Asset-backed

Financings that are backed purely by pools of assets and supporting credit enhancement structures, such as American Express Master Trust issues that are backed by credit card loans.

Base Currency

The reporting currency of a published index.

Base Date

The start date of a published FTSE fixed income index return series.

Bullet bond

A bond whose entire principal value is paid at maturity.

COBS code

Corporate Bond Sector Code (COBS) is a proprietary industry classification scheme. It provides detailed industry classifications of the GLIC code.

Consumer Price Index (CPI)

A measure of the weighted average price changes for a predetermined basket of consumer goods and services. For index purposes, represents the series that an inflation-linked bond is linked to.

Corporate

Bonds issued by industrial companies, utilities, and financial service companies, including those that carry bank guarantees. In addition, special purpose debt-issuing subsidiaries of such corporations are included, as are subsidiaries whose primary purpose is to provide financing to customers for the purchase and/or lease of the parent companies' products.

Covered

All Pfandbrief and Pfandbrief-like securities predominant in the Euro region.

Dated Date

The date on which a bond starts to accrue interest.

Debt Capacity Index

A thematic or alternatively weighted version of FTSE fixed income indices that weights bonds based on a country's capacity to replay their debt.

Dim Sum bond

A bond denominated in Chinese renminbi, but issued outside of mainland China.

Extendable Bond

A bond that includes an option to lengthen its maturity date.

Eurodollar bond

A bond issued outside the boundaries of the United States that pays interest and principal in US Dollars.

Euro medium-term note

A facility for an issuer to issue debt in the Euromarkets in various currencies, maturities, and structures, using a single set of documentation.

European Economic and Monetary Union (EMU) member countries (as of September 2020)

All EU Member states form part of EMU, which can be described as an advanced stage of economic integration based on a single market.

European Union (EU) member states (as of September 2020)

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

Eurozone member states (as of September 2020)

Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Eurosterling bond

A bond issued outside the boundaries of the United Kingdom that pays interest and principal in British pounds sterling.

Euroyen bond

A bond issued outside the boundaries of Japan that pays interest and principal in Japanese yen.

Financial

The issuer must be solely engaged in the financial sector. This includes commercial and investment banks, insurance companies, savings and loans, and building societies. It also includes the financial subsidiaries of conglomerates when the subsidiary does not operate for the primary benefit of the manufacturing arm (such as, General Electric Capital Corporation).

Fixed-to-floating rate bond

A security that is issued with a fixed-rate but has a predetermined date upon which it will convert to floating-rate.

Fixing date

The date on which the universe of securities used to compute index returns for the following month is fixed. The annual schedule of fixing dates is made available at www.yieldbook.com.

Floating-rate bond

A security that pays interest based on a set spread over a variable reference rate.

GLIC code

GLIC - Global Industry Code (GLIC) is a proprietary industry classification scheme. It is a high level sectorization of industry and asset class.

Global bond

Registered bonds issued simultaneously within and outside of the United States. These issues are traded across all markets and can settle through Cedel, Euroclear, and DTC.

Group-of-ten (G-10) countries

Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States (Switzerland is the honorary eleventh member of the G-10).

Index profile

The fixed composition of each index that is rebalanced on a monthly basis and used to compute official index returns. Index rules stipulate that there must be a minimum of four business days between the date each index profile is fixed and calendar month-end.

Index quality

An index quality is assigned to each index bond as of profile fixing. The quality is first mapped to the Standard & Poor's Financial Services LLC ("S&P") rating. If a bond is not rated by S&P but it is rated by Moody's Investors Service, Inc ("Moody's"), the S&P equivalent of the Moody's rating is assigned to the index quality. If a bond is split-rated (an investment-grade rating by one rating agency and high-yield by the other), the S&P equivalent of the investment-grade rating is assigned to the index quality. These ratings remain unchanged for the entire performance month.

Industry code

- GLIC - Global Industry Code (GLIC) is a proprietary industry classification scheme. It is a high level sectorization of industry and asset class.
- COBS - Corporate Bond Sector Code (COBS) is a proprietary industry classification scheme. It provides detailed industry classifications of the GLIC code.

Mandatory Provident Fund (MPF)

A required savings scheme or pension fund for the retirement of Hong Kong residents.

Market Accessibility Level

A level assigned as part of the FTSE Fixed Income Country Classification Process that is meant to represent the degree to which barriers to entry for foreign investors exist for local currency, fixed-rate government bond

markets. A level of 0, 1, or 2 is assigned according to a framework of relevant technical criteria covering 1) Market, Macroeconomic and Regulatory Environment; 2) Foreign Exchange Market; 3) Bond Market Structure; and 4) Global Settlement and Custody. Market Accessibility Levels are incorporated into the inclusion criteria of the WGBI and EMGBI, and indices that derive their membership from them.

Maturity sector

Maturity sector buckets are defined by including all underlying issues with a remaining average life at least equal to the lower bound, but less than the upper bound of the particular category. For example, the one- to three-year sector of the WGBI includes all securities in the WGBI with a remaining average life of at least one year, but less than three years. The set of bonds is then held constant for the calculation month, even though the average life declines. The only exception to this rule is the mortgage sector, which is included in its entirety in the one- to ten-year sector.

Municipal bond

Security issued by a US state, municipality, territory or county that is generally used to finance local capital expenditures. Municipal bonds may be taxable or tax-exempt to the end investor.

National Currency Unit (NCU)

The pre-Euro currencies of the Eurozone member countries (for example, French francs). These currencies continue to exist and circulate, but the intra-NCU exchange rates and the NCU exchange rates with the euro are irrevocably locked. Most Eurozone sovereign debt issued in NCUs has been redenominated into euros, but most other bonds remain denominated in NCUs. For index purposes, all NCU amounts are quoted in euro terms whether or not individual bonds have been redenominated, because there is no foreign exchange effect.

Official and agency

This includes all local government, provincial, and city debt as well as other agencies such as non-sovereign-guaranteed central and state banks and export credit agencies. Issues in this sector may have provincial or local government guarantees, but do not have sovereign-guarantees. Examples include Canadian provinces, Bank of Greece, Crédit Local de France, and the German Landesbanks.

Pay-in-kind bond

A bond that pays interest in additional bonds, rather than cash.

Regulation S and Rule 144A

Securities issued under Reg S and sold initially to non-US investors may subsequently be sold to US investors in the secondary market after a brief “seasoning” period has elapsed, typically 40 days. However, a holding of securities issued under Reg S and sold initially to QIBs under Rule 144A cannot be sold to other US investors in the secondary market until a two-year seasoning period has elapsed.

Non-corporate securities issued under Rule 144A without registration rights are eligible for inclusion in the US Broad Investment-Grade Bond Index and the Eurodollar Index.

The High-Yield Market Index includes issues available for sale under Rule 144A immediately on satisfaction of the index’s entry criteria. Before 1999, entry of these securities was delayed until the SEC registration process was completed.

Seasoning

The rules defining the length of time by which a bond is seasoned are complex and vary for different issuers. A simplifying rule is adopted for the purpose of determining when a bond becomes seasoned: An issue is to be deemed seasoned for the purposes of the Eurobond Indices 40 calendar days after the initial payment date.

Sinking fund

A pool of funds set aside by a debt issuer to repurchase a portion of outstanding bonds in the open market.

Sovereign and sovereign-guaranteed

These sectors include sovereign debt and any issues carrying an explicit sovereign-guarantee irrespective of the function of the issuer — for example, Qantas Airways and Kobe City.

Sukuk bond

Islamic bond structured to generate returns for investors without infringing on Islamic law, which prohibits riba or interest.

Supranational

Supranationals are supported by the capital of more than one sovereign state, such as the World Bank and the Asian Development Bank.

Yankee bond

A bond denominated in US Dollars issued in the United States by foreign banks, sovereigns, other government entities, and corporations whose parent companies reside outside the United States. These bonds are registered with the SEC.

Zero coupon bond

A security that does not pay interest, but is typically traded at a discount and can be redeemed in full at maturity for its entire face value.

Index analytics and aggregation values

Accrued interest

The amount of interest that has accrued and is owed to the holder of a bond between the last coupon date and the index settlement date. Index settlement convention is T+0.

Average life

The weighted average time of principal payments outstanding for a bond, weighted by the par amount of each payment. For a bullet bond, this will equal the time to maturity for the bond.

Common frequency

A mathematical adjustment to report a duration measure according to a different assumed payment frequency. The methodology for common frequency is to use semi-annual compounding frequency for all securities.

Convexity

The degree of curvature of a security's price/yield curve. It numerically approximates the second derivative of the price/yield curve and is calculated using the same curve shift as effective duration. The higher degree of positive convexity, the more sensitive the bond price is to decreasing interest rates and the less sensitive the bond price is to increasing rates. The more negative the convexity, the more sensitive the bond price is to increasing interest rates and the less sensitive the bond price is to decreasing rates. The calculation permits the cash flows of securities with optionality to vary in each scenario.

$$\left(\frac{\text{Full Price Down} + \text{Full Price Up} - (2 \times \text{Full Price Base})}{\text{Full Price Base} \times \left(\frac{\text{shock}}{100}\right)^2} \right) \times 100$$

Currency hedging methodology

Currency hedging in general is used to reduce or eliminate any foreign exchange rate risk. The methodology for monthly currency-hedged returns is based on the assumption of a rolling strategy of buying the foreign currency at the beginning of each month and selling the foreign currency one-month forward. The source for spot and forward rates is the Published Refinitiv Closing Rates. Further modifications to the forward rates are needed to account for differences between foreign exchange market conventions and FTSE Fixed Income Indices convention.

Duration to worst

Modified Duration computed using the Yield to Worst analytic. Duration to Worst is used to approximate the sensitivity to a change in yields, assuming the worst-case call or maturity scenario.

Effective duration

The percent price change if yield changes 100 basis points (1.0%). For most bonds there is an inverse relationship between prices and yields. To arrive at this, the yield curve is shifted up and down 25 basis points, recalculate the price assuming a constant option-adjusted spread, and use the following formula:

$$\left(\frac{\text{Full Price Down} - \text{Full Price Up}}{\text{Full Price Settle}} \right) \times 2 \times 100$$

Gross spread

The spread between the Yield to Maturity of a security and the Yield of the matching weighted average life point on the pricing yield curve.

Index value

An accumulating value expressed over the time of the index. An index begins with an original value of 100 and adjusts based on daily nominal returns. The current index value can be found by multiplying the previous day's index value by 1 + nominal return.

Index weight

Weight of an individual issue as a percentage of the total index market value.

Macaulay duration

The weighted average time (in years) in which the present value of the future cashflows is received. Both coupons and principal payments are considered in the calculation.

Market value

Represents the monetary exposure of the bond in the index in local currency and is calculated as:

Market Value = (Price + Accrued Interest) x Par Amount Outstanding.

Modified duration

The approximate percentage change in full price per 100 basis point change in Yield, assuming fixed cashflows. Modified duration is also interpreted as the first derivative of price as a nominal function of yield expressed as a percent of full price change for 100 basis points.

$$\text{Modified Duration} = \frac{\text{Macaulay Duration}}{\left(1 + \frac{\text{YTM}}{\text{Compound Frequency} \times 100}\right)}$$

Option Adjusted Spread (OAS)

OAS is the single spread that when added to each path of the option model interest rate tree, will discount the cashflows such that the average of their present values (price per path) is equal to the current price. The OAS is not the average spread across the paths; rather it is based on average prices.

Par amount

Represents the quantity of the bond held in the index displayed in local currency. Depending on the index methodology, this amount may reflect float adjustments or other reweighting that may result in differences to the amount outstanding of a bond that is available in the market.

Price

For purposes of index calculations, price is expressed as a percentage of par and on a clean (without accrued interest) basis.

Yield to maturity

The internal rate of return of a bond assuming it is held to maturity. It is computed as the single yield which will make the sum of the discounted expected future cashflows equal to the current price of the bond. The yield to maturity incorporates future coupon income as well as scheduled principal payments and reinvestment of cash flows at the current yield until maturity. The Yield to Maturity is computed following the bond's compounding and accrual conventions.

Yield to call

The internal rate of return of the bond assuming it is called at the next call date.

Yield to worst

The minimum of yield to maturity and yield to call calculated for each future date on the call schedule, if the security is callable; otherwise, the yield to maturity.

Appendix

11.5. History

Historic changes to indices can be found using the following link

[FTSE Fixed Income Indices History of Ground Rule Updates.pdf](#)

For more information about FTSE Russell indices, please visit ftserussell.com.

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