

FTSE Goldman Sachs Emerging Markets USD Government Bond Index

v1.5

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Ground Rules



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Introduction

1.0 Introduction

- 1.1 The FTSE Goldman Sachs Emerging Markets USD Government Bond Index
- 1.1.1 The FTSE Goldman Sachs Emerging Markets USD Government Bond Index comprises US dollar denominated sovereign, sovereign guaranteed and government sponsored bonds providing a broad measure of sovereign and government related emerging markets¹ while excluding countries with relatively weak governance, high inflation growth and unfavorable import measures.
- 1.1.2 The index is created from the FTSE Emerging Markets Broad Bond Index (EMUSDBBI). The sovereign, sovereign guaranteed and government sponsored sectors of the index are used as the base universe of bonds. The base universe is then screened for larger issues based on amount outstanding, representing the more liquid portion of the emerging markets. This liquid universe of bonds is then divided into two maturity buckets, 1-7 years and 7+ years. The weights of the maturity buckets are adjusted to match the weighted average effective duration of the base. Within each maturity bucket, constituents are assigned weights in proportion to their market capitalization. A 5% market weight cap is applied to each country.
- 1.1.3 The bonds are then ranked by Worldwide Governance Indicators (WGI)². Bonds from the lowest ranked 10% of countries as measured by WGI are excluded. The resulting universe is then ranked again by a pair of equally weighted fundamental indicators provided by the International Monetary Fund (IMF). The IMF fundamental indicators include: (1) trade measured by the year over year difference of the import coverage ratio and (2) a cost of goods and services measured by the absolute change in inflation. The lowest 5% ranked countries as measured by the IMF fundamental indicators are excluded.

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¹ For more information on the methodology for classifying a country to be "emerging," please see the Emerging Markets Indexes section of the *Index Guide* on the Web at http://www.yieldbook.com/m/indices/.

² For more information on Worldwide Governance Indicators see http://info.worldbank.org/governance/wgi.

- 1.1.4 The remaining bonds from the emerging markets with favorable governance composite and fundamental composite rankings (i.e., higher import coverage growth and lower inflation volatility), are then capped again at 5% weight per country to help manage the concentration risk.
- 1.2 The FTSE Goldman Sachs Emerging Markets USD Government Bond Index does not take account of ESG factors in its design.

1.3 **FTSE Russell**

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- 1.4 FTSE Russell hereby notifies users of the index that it is possible that factors, including external factors beyond the control of FTSE Russell, may necessitate changes to, or the cessation, of the index and therefore, any financial contracts or other financial instruments that reference the index or investment funds which use the index to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the index.
- 1.4.1 Index users who choose to follow this index or to buy products that claim to follow this index 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 or any members of the FTSE Russell Policy Advisory Board (or any person concerned with the preparation or publication of these Ground Rules) 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.



Management Responsibilities

2.0 Management Responsibilities

- 2.1 FTSE Fixed Income LLC is the administrator of the index.3
- 2.2 Amendments to these Ground Rules
- 2.2.1 These Ground Rules shall be subject to regular review (at least once a year) by FTSE Russell to ensure that they best reflect the aim of the index series. Any proposals for significant amendments to these Ground Rules 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.
- 2.2.2 As provided for in the Statement of Principles for FTSE Russell Fixed Income Indices, where FTSE Russell determines that the Ground Rules are silent or do 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 treatment will not be considered as an exception or change to the Ground Rules, or to set a precedent for future action, but FTSE Russell will consider whether the Ground Rules should subsequently be updated to provide greater clarity.

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³ 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) and <u>The Benchmarks (Amendment and Transitional Provision)</u> (EU Exit) Regulations 2019 (the UK Benchmark Regulation). FTSE Fixed Income LLC administers the Index Series in line with the third country transitional provisions contained within Article 51(5) of the European Benchmark Regulation and the third country transitional provisions as amended by Article 42(5) of the UK Benchmark Regulation.



FTSE Russell Index Policies

3.0 FTSE Russell Index Policies

These Ground Rules should be read in conjunction with the following policy documents which can be accessed using the links below or by contacting <u>fi.index@lseg.com</u>. These policies are reviewed annually and any changes are approved by the FTSE Russell Index Governance Board.

3.1 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 summarises 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: <u>Statement_of_Principles_Fixed_Income_Indices.pdf</u>

3.1 Queries and Complaints

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

Benchmark_Determination_Complaints_Handling_Policy.pdf

3.2 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 <u>fi.index@lseg.com</u>.

Fixed Income Recalculation Policy and Guidelines.pdf

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- 3.3 Index Policy in the Event Clients are Unable to Trade a Market or a Security
- 3.3.1 Details of FTSE Russell's treatment can be accessed using the following link:

Index Policy in the Event Clients are Unable to Trade a Market or a Security.pdf

3.4 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

- 3.5 FTSE Russell Governance Framework
- 3.5.1 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 defence risk management framework and is designed to meet the requirements of the IOSCO Principles for Financial Benchmarks⁴, the European benchmark regulation⁵ and the UK benchmark regulation⁶. The FTSE Russell Governance Framework can be accessed using the following link:

FTSE_Russell_Governance_Framework.pdf

⁴ IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013

⁵ 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

⁶ The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019



Composition and Design Criteria

4.0 Composition and design criteria

4.1.1 Figure 1 details the design criteria and calculation assumptions for the FTSE Emerging Markets Broad Bond Index. Additional design criteria and calculation assumptions for the FTSE Goldman Sachs Emerging Markets USD Government Bond Index are outlined in Figure 2.

Figure 1. Design criteria and calculation assumptions for the FTSE Emerging Markets Broad Bond Index

Coupon	Fixed-rate, fixed-to-floating bonds
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
Minimum credit quality	C by S&P and Ca by Moody's
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. — unless otherwise stated in Figure 2. Securities excluded: Variable-rate, floating-rate, callable zero-coupon bonds, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings, and private placements
Accessibility	Limited to bonds and markets that foreign investors can fully access and whose returns they can easily replicate.
Weighting	Market capitalization
Rebalancing	Once a month at the end of the month

Reinvestment of cash flows	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations. ⁷
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. ⁸ Each year's scheduled fixing dates are published on the website.

Figure 2. Additional design criteria and calculation assumptions for the FTSE Goldman Sachs Emerging Markets USD Government Bond Index

Minimum issue size	USD 500 million minimum outstanding per issue				
Minimum issuer size	USD 1 billion minimum total qualifying outstanding debt				
Minimum credit quality	B- by S&P and B3 by Moody's (excludes defaulted bonds)				
Composition	Securities included: bonds issued by Sovereign Government, Sovereign Government Sponsored Entities, and Sovereign Government Guaranteed Entities. Securities excluded: Sukuk				
Pricing	Thomson Reuters mid-market price. Americas: 4:00 p.m. New York Supplemental Europe, Middle East, and Africa: 4:15 p.m. London Asia Pacific: 6:00 p.m. Tokyo Secondary pricing source, FTSE Index price FTSE prices used for historical calculations (from February 28, 2007 to August 26, 2018)				
Reconstitution	Each month, after filtering for minimum issue size, the bond universe is divided into two maturity buckets, 1-7 years and 7+ years. The weights of the maturity buckets are adjusted to match the weighted average effective duration to the base universe, defined as the sovereign, sovereign guaranteed and government sponsored sectors of the FTSE Emerging Markets Broad Bond Index. Within each maturity bucket, constituents are assigned weights in proportion to their market capitalization. A 5% market weight cap is applied to each country. The bonds are then screened by the average governance rank created from six Worldwide Governance Indicators. The countries with the lowest 10% composite rank are excluded. The remaining universe is screened by two fundamental indicators: (1) trade as measured by the year over				

⁷ Prior to 1 November 2022, reinvestment income was included in the total return calculation.

⁸ Fixing dates provide a clear reference point for index users to know in advance of any changes to the composition of the index for the upcoming month. On each fixing date, publically available securities information is used to determine index eligibility and indicative values for the following month's index profile.

year difference of the import coverage ratio and (2) cost of goods and services as measured by the absolute change in inflation, both determined annually in May. The countries are ranked positively by import coverage ratio and negatively by inflation and, accounting for market capitalization. The percentile rankings of individual indicators are equally combined to calculate each country's composite rank and the countries with the lowest 5% composite rank are excluded. The remaining bonds from the emerging markets with favorable governance composite and fundamental composite rankings (i.e., higher import coverage growth and lower inflation volatility), are then capped again at 5% weight per country to help manage the concentration risk. In the event that the number of index eligible countries is twenty or less, no countries will be removed or reweighted using the fundamental indicators. Countries would be market value weighted subject to the 5% country weight cap. The rankings are recalculated quarterly at the end of February, May, August, and November to determine the countries for inclusion in the following quarter's index profile. Capping 5% on country weights

Figure 3. Example of governance composite ranking, issuer reconstitution and index weighting

February 28, 2007

Index base date¹⁰

Description	Country Market Value (\$Bn)	Average of Governance Percentile Ranking*	Composite Decile Ranking	Inclusion	Index Market Value1 (After recapping \$Bn)	Market Capitalization Weight
Country A	97	1%	1	Included	100.1	3.3%
Country B	119	5%	2	Included	122.9	4.1%
Country C	99	8%	3	Included	102.2	3.4%
Country D	135	12%	4	Included	139.4	4.6%
Country E	127	16%	5	Included	131.1	4.4%
Country F	139	20%	6	Included	143.5	4.8%
Country G	160	24%	7	Included	150.0	5.0%
Country H	145	29%	8	Included	149.7	5.0%
Country I	131	33%	9	Included	135.3	4.5%
Country J	157	37%	10	Included	150.0	5.0%
Country K	117	41%	11	Included	120.8	4.0%
Country L	144	45%	12	Included	148.7	5.0%
Country M	139	50%	13	Included	143.5	4.8%

⁹ Inflation, balance of payments, and international reserves values for the previous calendar year are published each year, generally in April, by the International Monetary Fund (IMF) in its World Economic Outlook (WEO).

¹⁰ Back tested data from 2/28/2007 through 8/26/2018. Live data from 8/27/2018 through present.

Description	Country Market Value (\$Bn)	Average of Governance Percentile Ranking*	Composite Decile Ranking	Inclusion	Index Market Value1 (After recapping \$Bn)	Market Capitalization Weight
Country N	85	53%	14	Included	87.8	2.9%
Country O	138	56%	15	Included	142.5	4.7%
Country P	108	60%	16	Included	111.5	3.7%
Country Q	136	64%	17	Included	140.4	4.7%
Country R	160	68%	18	Included	150.0	5.0%
Country S	87	72%	19	Included	89.8	3.0%
Country T	165	76%	20	Included	150.0	5.0%
Country U	159	81%	21	Included	150.0	5.0%
Country V	165	86%	22	Included	150.0	5.0%
Country W	88	89%	23	Included	90.9	3.0%
Country X	40	92%	24	Excluded		
Country Y	165	95%	25	Excluded		
Country Z	95	99%	26	Excluded		
Total	3300				3000	100%

^{*}Lower percentile rankings represent better governance rankings

Figure 4. Example of composite fundamental ranking, issuer reconstitution and index weighting

Description	Index Market Value1 (\$Bn)	Import Coverage Ratio Percentile Ranking*	Absolute Change Inflation Percentile Ranking*	Average Ranking*	Composite Decile Ranking	Inclusion	Final Index Market Value (After recapping, \$Bn)	Market Capitalization Weight
Country A	100.1	6%	2%	4%	1	Included	102.3	3.5%
Country B	122.9	2%	11%	7%	2	Included	125.5	4.3%
Country C	102.2	18%	5%	12%	3	Included	104.4	3.6%
Country D	139.4	14%	11%	13%	4	Included	142.4	4.9%
Country E	131.1	10%	18%	14%	5	Included	134.0	4.6%
Country F	143.5	22%	27%	25%	6	Included	145.5	5.0%
Country G	150.0	32%	22%	27%	7	Included	145.5	5.0%
Country H	149.7	37%	32%	34%	8	Included	145.5	5.0%
Country I	135.3	27%	44%	36%	9	Included	138.2	4.8%

Description	Index Market Value1 (\$Bn)	Import Coverage Ratio Percentile Ranking*	Absolute Change Inflation Percentile Ranking*	Average Ranking*	Composite Decile Ranking	Inclusion	Final Index Market Value (After recapping, \$Bn)	Market Capitalization Weight
Country J	150.0	46%	37%	41%	10	Included	145.5	5.0%
Country K	120.8	41%	53%	47%	11	Included	123.4	4.2%
Country L	148.7	60%	44%	52%	12	Included	145.5	5.0%
Country M	143.5	55%	58%	57%	13	Included	145.5	5.0%
Country N	87.8	62%	53%	58%	14	Included	89.7	3.1%
Country O	142.5	53%	63%	58%	15	Included	145.5	5.0%
Country P	111.5	75%	70%	73%	16	Included	113.9	3.9%
Country Q	140.4	69%	77%	73%	17	Included	143.5	4.9%
Country R	150.0	77%	70%	74%	18	Included	145.5	5.0%
Country S	89.8	68%	80%	74%	19	Included	91.8	3.2%
Country T	150.0	84%	84%	84%	20	Included	145.5	5.0%
Country U	150.0	89%	95%	92%	21	Included	145.5	5.0%
Country V	150.0	95%	90%	93%	22	Included	145.5	5.0%
Country W	90.9	98%	96%	97%	23	Excluded		
Total	3000.0						2909.1	100%

^{*}Lower percentile rankings represent better fundamental rankings

4.2 **Timing**

4.2.1 Indexes are calculated Monday through Friday except Christmas Day (observed) and New Year's Day (observed). When a market observes a holiday, the closing prices from the previous available day are used as the closing prices for index calculations on such holiday for that market.

4.3 Index quality

4.3.1 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 rated by neither S&P nor Moody's, the bond is not assigned an index 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.

4.4 **Defaults**

4.4.1 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, where applicable.

4.5 **Return computation**

4.5.1 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 are price change, principal payments, coupon payments and accrued interest. The total returns are market capitalization weighted using the security's beginning-of-period market value (see Figure 4).

Figure 4. 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 inaccuracies inherent in computer floating-point arithmetic, the last digit in any reported value may sometimes be off by one from its true value.

Ticker for the FTSE Goldman Sachs Emerging Markets USD Government Bond Index

Ticker	Index
CFIIGEMD	FTSE Goldman Sachs Emerging Markets USD Government Bond Index, in USD terms



Appendix A: Further Information

A Glossary of Terms used in FTSE Russell's Ground Rule documents can be found using the following link:

Glossary of terms FTSE Fixed Income.pdf (ftserussell.com)

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at fi.index@lseg.com.

Website: www.ftserussell.com

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