

Ground Rules



FTSE US Municipal Tax-Exempt Investment-Grade Bond Index

v.1.0

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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 that meet the inclusion criteria described in Figure 1 are included to the index.

Sub-indexes are available based on credit quality, state, municipal sector classification, and maturity.

Figure 1. FTSE US Municipal Tax-Exempt Investment-Grade Bond Index – design criteria and calculation assumptions

Coupon	Semi-annual fixed-rate bonds and zero coupon bonds
Currency	USD
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.
Composition	<p><u>Securities included:</u> 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</p> <p><u>Securities excluded:</u> 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</p>

Figure 1. FTSE US Municipal Tax-Exempt Bond Investment-Grade Index – design criteria and calculation assumptions (continued)

Minimum Credit Quality	BBB- by S&P or Baa3 by Moody's
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.
Weighting	Market capitalization
Rebalancing	Once a month on the last business day of the month (pricing as of the last business day of the monthly and settlement as of the last calendar day 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	At daily average of the one-month Eurodeposit rate, calculated from the actual scheduled payment date of the cash flow through the end of the reporting period.
Pricing	Prices are sourced from Refinitiv and are taken as of 4pm (New York time) on the bid side.
Calculation Frequency	Daily
Settlement Date	Monthly: Last calendar day 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. The profile fixing dates for each year are available on the Web site at www.yieldbook.com/m/indices/
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 provided in Figure 2. 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 is given in parenthesis.

Figure 2. 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
	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-indexes by state for the top issuers in the index.

Index quality

An index quality is assigned to each index bond as of profile fixing. The index 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"), then it is assigned the S&P equivalent of the Moody's rating 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. Index quality remains unchanged for the entire performance month.

Return computation

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 (see Figure 3). The components of total return are price change, principal payments, coupon payments, accrued interest, and reinvestment income on intra-month cash flows. The total returns use each individual security's beginning-of-period market value.

Figure 3. 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 + Reinvestment income
Total rate of return (%)	-	[(End-of-period value / Beginning-of-period value) – 1] x 100

A note on precision: Returns are computed to at least six decimal places but reported to a maximum of four. 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.

Analytics

A comprehensive range of analytics, including duration, spread and yield metrics, are published for the FTSE US Municipal Tax-Exempt Investment-Grade Bond Index and sourced from the Yield Book. Where a curve is used in computation of analytics, the MMD AAA Curve is used. This curve is constructed based on a universe of AAA-rated state GO debt with a 5% coupon and a 10-year par call structure.

Data correction

FTSE Russell strives to produce error-free indices; however, there are occasions when erroneous data is published. These circumstances may be caused by, but not limited to, calculation or pricing errors, missing data, or incorrect indicative data. On rare occasions, and only in extreme cases, the FTSE Russell team may conclude that restatement is required. When determining if restatement is necessary, factors such as the magnitude of the error, the overall impact on the data, the sector affected, and whether the error affects daily and/or monthly results are taken into consideration.

If FTSE Russell finds it necessary to restate, an announcement will be posted on the website (www.yieldbook.com/m/indices) and the revised index data will be redistributed. Subscribers to Index Production News will automatically receive all correction notifications via email.

Data availability and accessibility

Index information, including index profiles, analytics and returns, and historical data, for the FTSE US Municipal Tax-Exempt Investment-Grade Bond Index is available on <https://www.yieldbook.com/m/indices>. FTSE Russell also makes data for its indexes available through a number of data and analytic vendors.

Chronological summary of events

Figure 5. FTSE Municipal Tax-Exempt Investment-Grade Bond Index Event Summary

Year	Highlight
2019	April: FTSE US Municipal Tax-Exempt Investment-Grade Bond Index is introduced.

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