Euronext MTS EGB Pricing Methodology and Index Calculation

Effective from 20-08-2025

Version 25-02

EURONEXT

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1. Highlights

1.1.1 VERSION NOTES

Version	Effective date	New or changed parts	Reference/announcement
24-01	16-09-2024	Initial version	
25-01	07-02-2025	Index Calculation Clarification (Inflation ratio)	
25-02	20-08-2025	Adding 11 am Snapshot prices	

2. Euronext MTS EGB Pricing Methodology

2.1 Market Introduction

2.1.1 EURONEXT MTS EGB INDICES

The Euronext MTS EGB Indices serve as key benchmarks for the European sovereign bond market. These indices are computed and disseminated by Euronext, utilizing pricing data sourced from the MTS platform. Pricing for the Euronext MTS EGB Indices is derived from both MTS Cash and MTS Bond Vision Composite (BVC) Prices. Notably, each bond listed on the MTS platform benefits from the involvement of multiple dealers who continuously provide quotes. These quotes are widely disseminated across the market through various data vendors.

MTS Cash prices are used as the priority. Before inclusion in the index calculation, MTS Cash prices undergo a thorough verification process aimed at filtering out potentially unreliable quotes. This process involves comparing bid and offer spreads against maturity-specific thresholds within each country.

In instances where an MTS Cash price fails to meet the verification criteria, the corresponding BVC price is utilized instead.

2.1.2 VERIFICATION RATIONALE

The purpose of the thresholds is to protect the quality of the indices.

Some fixed income securities, such as some long maturity bonds, may not trade frequently. Limited trading can result in stale prices or wide bid-ask spreads on the MTS Cash platform that do not reflect current market conditions.

Economic events, policy changes, or geopolitical factors, can cause uncertainty creating wider bid-ask spreads before their announcement.

2.1.3 VERIFICATION METHODOLOGY

This document sets out the approach used for the establishment and management of the thresholds used in price verification.

2.2 Threshold Calculation

2.2.1 CALCULATION OF SPREAD THRESHOLDS

The bid-offer price spread thresholds are determined based on the 17.00 CET bid and ask price fixings recorded over the preceding twelve months. These thresholds vary according to both the maturity and country of issuance of bonds. Maturity ranges of 1-3, 3-5, 5-7, 7-10, 10-15, 15-25, 25+ years are employed, utilizing a left-end inclusion methodology. For instance, bonds falling within the 5-7 year maturity range include those with remaining time to maturity greater than or equal to 5 years and less than 7 years.

To establish each threshold, all bid-offer spreads observed over the past year for bonds within the relevant country and maturity bracket are aggregated. These spreads are then sorted in ascending order, and the required percentile spread is extracted. This percentile is selected to correspond to a 1 standard deviation confidence level, operating under the assumption of a normal distribution of spreads and focusing on one tail of the distribution. Consequently, a percentile value of 68.27% is utilized

On top of these spread verification, we assure that bid-ask spread from MTS Cash prices are not twice as wide as the bid-ask spread of the MTS BVC prices.

Prices based on the 11:00 CET bid and ask fixings are also available, and apply the same spread threshold calculation methodology.

2.2.2 CALCULATION FREQUENCY

These thresholds are recalculated on a daily basis, ensuring they remain responsive to the dynamic nature of the market. Consequently, spreads are adjusted to account for daily market fluctuations and promptly incorporate any relevant market developments or news that could influence prices

2.3 Market Disruption

2.3.1 MARKET DISRUPTION

In the event that the value of one or more constituents is unavailable due to a suspension or a market disruption event, the index calculation will incorporate the most recent end-of-day value for those constituents.

2.3.2 IMPLICATION FOR THRESHOLDS

The threshold calculations treat historical prices obtained through the described methodology during periods of market disruption no differently from prices acquired under normal market conditions.

2.4 Price Challenges

Euronext offers a mechanism for clients to raise queries or disputes regarding the pricing or other valuation metrics of any bond included in the Euronext MTS EGB Indices.

Users wishing to contest a price or valuation metric can do so by emailing CorporateActionsTeam@euronext.com. The email should contain pertinent details such as the terms and conditions of the relevant issue(s) (including Issue Name, Coupon, Maturity, and ISIN), the observed pricing level from Euronext MTS Prices, the expected pricing, along with any supporting rationale, including references to secondary sources if available.

Upon submission, clients will receive an email acknowledgment. The resolution of the matter will be communicated to the client promptly. In cases where files are republished, all users of the affected indices will be notified via email.

3. Euronext Fixed Income Index Calculation

3.1.1 PRICE RETURN INDEX

The general formula for the **Price Return Index** is:

$$Index_t = Index_{lrd} * \frac{MarketValue_t + Cash_t}{BaseValue_{lrd}}$$

$$BaseValue_{lrd} = \sum_{i=1}^{n} \frac{P_{i,lrd} * SF_{i,lrd} * N_{i,CD} * CF_{i,CD} * FX_{i,lrd} * IR_{i,lrd}}{100}$$

$$MarketValue_t = \sum_{i=1}^{n} \frac{P_{i,t} * SF_{i,t} * N_{i,CD} * CF_{i,CD} * FX_{i,t} * IR_{i,t}}{100}$$

$$Cash_t = CashRedemtion_t$$

$$CashRedemption_{i,t} = \sum_{t=1}^{n} CashRedemption_{i,t-1} + \sum_{t=1}^{n} \left(\frac{RP_{i,t}}{100}\right) * SF_{i,t} * (N_{i,CD} - N_{i,t}) * CF_{i,CD} * FX_{i,t} * IR_{i,t}$$

3.1.2 TOTAL RETURN INDEX

The general formula for the **Total Return Index** is:

$$Index_t = Index_{lrd} * \frac{MarketValue_t + Cash_t}{BaseValue_{lrd}}$$

$$BaseValue_{lrd} = \sum_{i=1}^{n} \frac{(P_{i,lrd} + AI_{i,lrd}) * SF_{i,lrd} * N_{i,CD} * CF_{i,CD} * FX_{i,lrd} * IR_{i,lrd}}{100}$$

$$MarketValue_t = \sum_{i=1}^{n} \frac{(P_{i,t} + AI_{i,t}) * SF_{i,t} * N_{i,CD} * CF_{i,CD} * FX_{i,t} * IR_{i,t}}{100}$$

$$Cash_t = CashCoupon_t + CashRedemtion_t$$

$$CashCoupon_{i,t} = \sum_{t=1}^{n} CashCoupon_{i,t-1} + \sum_{t=1}^{n} \frac{Coupon_{t,i}/100}{CouponFrequency} * SF_{i,t} * N_{i,SD} * CF_{i,SD} * FX_{i,t} * IR_{i,t}$$

$$CashRedemption_{i,t} = \sum_{t=1}^{n} CashRedemption_{i,t-1} + \sum_{t=1}^{n} \left(\frac{RP_{i,t} + AI_{i,t}}{100}\right) * SF_{i,t} * (N_{i,CD} - N_{i,t}) * CF_{i,CD} * FX_{i,t} * IR_{i,t}$$

3.1.3 GLOSSARY OF TERMS

$AI_{i,t}$	Accrued Interest of bond i on Business Day t
$Cash_t$	Cash held in index on t due to coupon payments, accumulated over a month
CD	Last Cutoff Date
Cutoff Date	4 trading Days before the Review Effective Date
$CF_{i,t}$	Capping factor of bond i
Coupon	Annual coupon rate of the bond i
CouponFrequency	Coupon payment frequency of bond i
$FX_{i,t}$	Current exchange rate on Business Day t
IR i,t	Inflation ratio of bond i on Business Day t
lrd	Last Rebalancing Date
n	Number of bonds in the index
$N_{i,t}$	Nominal value of Amount outstanding of bond i included in the index on Business Day t
$P_{i,t}$	Clean Price of bond i on Business Day t
Effective Date	After the market close of the last trading day of each month
$RP_{i,t}$	Redemption Price of bond i on Business Day t, is the price at which the issuer redeemed the bond
$SF_{i,t}$	Sink Factor of bond i on Business Day t
t	Time of calculation

3.1.4 CORPORATE ACTIONS

Corporate action events within Fixed Income Indices refer to specific changes or events impacting bonds in the index. The methodology guiding the treatment of these events aims to maintain the accuracy and representativeness of the index. Changes are implemented on the effective date of the event, ensuring that the index reflects only genuine market movements.

Default Corporate Action occurs when an issuer fails to make a coupon payment or repay the bond's principal at maturity within a specified timeframe. After such a failure, the issuer typically has a 'Grace Period' to correct the default by making the payment. During this period, the bond is in "Technical Default." If the payment is not made within the Grace Period, it becomes an "Event of Default."

Adjustment: If the issuer misses a coupon payment, the bond is marked as "Flat Trading," meaning buyers are not responsible for paying any accrued interest since the last payment. If the coupon was included in the index but not reinvested when the missed payment became known, the cash will be removed from the index. If the issuer makes the payment during the Grace Period, the "Flat Trading"

status is removed, and interest calculations resume. If the bond's default is confirmed, its status changes to "In Default," and it remains in the index until the next Rebalance Day.

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