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# FTSE MTS Pricing Methodology Guide

v1.7

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## Section 1

# Market Introduction

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### 1.0 Market Introduction

#### 1.1 FTSE MTS Indexes

1.1.1 FTSE MTS Indexes are a set of benchmarks for the European sovereign bond market. The indexes are calculated and distributed by FTSE, or its agent, using pricing data from the MTS platform. FTSE MTS Indexes are priced using live quotes from the MTS inter-dealer platform. Each bond quoted on the MTS platform is supported by multiple dealers supplying continuous quotes. These quotes are widely distributed for information to the market via data vendors.

1.1.2 Prior to being used in the index calculation, the prices are subject to a multi-step verification process which aims to remove quotes that may not be reliable given the size of the bid-offer spread or which have experienced significant moves. The verification procedure includes:

- Comparing the bid and offer spreads against maturity within country thresholds for sovereign bonds and bills, and maturity thresholds (across all countries) for covered bonds
- Comparing price movements in individual bonds against two pre-defined thresholds: one for sovereign bills and bonds and one for covered bonds.

#### 1.2 Verification Rationale

1.2.1 The purpose of the thresholds is to protect the quality of the indexes. If genuine price moves trigger too many alerts before being accepted, alerts caused by prices submitted erroneously (that should be excluded from the index calculation) might be missed. Accordingly, if a situation of market turbulence should arise such that thresholds were regularly being breached by prices that would otherwise be regarded as representative of the underlying market conditions, the threshold levels may be temporarily increased. Once conditions return to normal, the original values will be restored. Details of the threshold adjustments and the rationale behind the changes will be reported to the FTSE Russell Product Governance Board and the FTSE EMEA Fixed Income Advisory Committee

#### 1.3 Verification Methodology

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

## Section 2

# Threshold Calculation

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## 2.0 Methodology

### 2.1 Calculation of spread thresholds

- 2.1.1 For sovereign bills and bonds the bid-offer price spread thresholds are based on the 16.00 CET bid and offer price fixings over the preceding twelve months of all such bonds currently constituents of the FTSE MTS indexes. Each bond has three fixings each day: at 11.00 CET, 16.00 CET and 17.15 CET. The spreads at 11.00 CET are typically tighter than at other points in the day, reflecting the greater market liquidity at this time, whereas spreads at 17.15 CET are wider due to lower liquidity levels at this time.
- 2.1.2 Different thresholds are calculated for bonds according to their maturity and country of issue. Maturity ranges of 0-1, 1-3, 3-5, 5-7, 7-10, 10-15, 15-30, 30-50 and 50+ years are used. Thresholds for covered bonds are calculated by maturity only.
- 2.1.3 For each threshold all bid-offer spreads over the past year for all bonds of the relevant country and maturity are used. The set of all these spreads is sorted into ascending order and the required percentile spread is taken as the new threshold. This percentile corresponds to a 2 x standard deviation confidence level, assuming spreads are normally distributed, and looking at one tail of the distribution. Hence a percentile value of 97.72% is used.
- 2.1.4 If no bonds are available for a particular country-maturity range combination, or its calculated threshold is lower than the shorter adjacent maturity range for the same country, then the threshold is taken as the average of thresholds in maturity ranges either side (if the longest or shortest maturity range is affected then the threshold from the adjacent range is used). Thresholds are rounded up to the next whole basis point.

The final result of this exercise, is a table such as in the illustration below:

SPREADS	< 1 Y	1-3 Y	3-5 Y	5-7 Y	7-10 Y	10-15 Y	15-30 Y	30-50 Y	> 50Y
Austria	0.24	0.40	0.40	0.40	0.50	0.81	1.44	4.00	4.00
Belgium	0.03	0.06	0.11	0.13	0.18	0.66	0.74	0.99	0.99
Denmark	0.12	0.26	0.45	0.45	0.50	1.00	1.50	1.50	1.50
Finland	0.04	0.15	0.35	0.38	0.58	0.64	0.70	0.70	0.70
France	0.14	0.35	0.47	0.54	0.60	1.89	1.89	1.89	1.89
Germany	0.23	0.22	0.34	0.51	0.55	1.31	2.38	2.38	2.38
Ireland	0.30	0.40	0.51	0.70	0.98	1.25	1.43	1.43	1.43
Italy	0.09	0.18	0.26	0.31	0.46	0.94	1.41	0.67	0.72
Netherlands	0.03	0.06	0.20	0.33	0.60	0.88	0.88	1.02	1.02
Portugal	0.47	0.91	1.20	2.00	2.01	3.00	3.53	3.53	3.53
Slovenia	0.29	0.55	0.98	1.30	1.50	2.90	4.29	4.29	4.29
Spain	0.03	0.21	0.24	0.23	0.52	0.90	1.25	1.65	1.65

2.1.5 For covered bonds the process is identical, except that end-of-day prices taken at 17.15 CET are used, and thresholds are calculated for maturity ranges across all countries.

## 2.2 Calculation of price movement thresholds

2.2.1 As with the spread thresholds, the price movement thresholds for sovereign bonds and bills are based on 16.00 CET price fixings over the preceding twelve months of all such bonds currently in the MTS indexes. For covered bonds the end-of-day prices taken at 17.15 CET are used.

2.2.2 However, only two thresholds, one for each of covered and non-covered bonds, are calculated: irrespective of country and maturity.

2.2.3 The same calculation as for bid-ask thresholds is performed, using historical day-to-day bid price movements over the past year. Results are rounded up to the next highest basis point.

## 2.3 Calculation frequency

2.3.1 The calculation of the thresholds is performed quarterly. The calculations use all bid and offer prices from the preceding twelve months for all bonds currently in the MTS Index series. As such only around 25% of the data used in each quarterly calculation is new to the process.

2.3.2 Following each quarterly analysis the details of the new thresholds and changes from previous values are reported to the FTSE EMEA Fixed Income Advisory Committee and the FTSE Russell Product Governance Board.

## Section 3

# Threshold Breaches

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### 3.0 Operational Procedures

#### 3.1 Actions once a breach occurs

- 3.1.1 When a new price (bid or offer) causes either the spread or price movement threshold to be breached, an alert is raised and the new price is automatically held at its last good value while this is investigated. Once the spread or price moves back inside the thresholds, or provided the price is considered genuine based on an analysis of prevailing market conditions supported by information obtained from other external systems, market participants, trading platforms and the Research team, the new price will be accepted and the indexes will calculate using the real time price as before. Subsequent bid-offer price spreads and movements will trigger alerts as before if they continue to breach the thresholds; however price movement thresholds will be based off the newly-accepted price.
- 3.1.2 If at the time of a fix (11.00, 16.00 or 17.15), more than 75% of the constituent bonds of an index have been held as a consequence of breaching the price movement or spread thresholds, the affected fixing will be flagged as indicative

#### 3.2 Last Good Price

- 3.2.1 For each instrument the most recent price that successfully completes the verification process is referred to as its Last Good Price (LGP) and is subsequently used in the index calculation. In the event that the verification process disqualifies all prices for an instrument, or if no prices have been received, the LGP is used until a new price is available. If no new price for an instrument has become available from market open to 15 minutes before the day's first fixing, then a current indicative price from MTS BondVision will be taken as a new LGP. A similar process is repeated at subsequent price fixings that day: if no new price has become available since the previous fixing then 15 minutes prior to the next fixing the current price from MTS BondVision is taken as a new LGP.

#### 3.3 Market turbulence

- 3.3.1 If a situation of market turbulence should arise such that thresholds were regularly being breached by prices regarded as representative of underlying market conditions then the threshold levels may be temporarily increased. The purpose of the thresholds is to protect the quality of the indexes and if genuine prices trigger too many alerts before being accepted this may obscure those alerts caused by prices submitted erroneously that should be excluded. Once conditions return to normal the original values will be restored. Details of the threshold adjustments and the rationale behind the changes will

be reported to the FTSE Russell Product Governance Board and the FTSE EMEA Fixed Income Advisory Committee.



## Section 4

# Market Disruption

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### **4.0 Market Disruption**

#### **4.1 Market Disruption**

- 4.1.1 If the value of one or more constituents is not published due to a suspension or a market disruption event, the index will be calculated taking the latest intra-day value, if available. If an intra-day value is unavailable the previous end of day value will be used.

#### **4.2 Interruption of Live Pricing from MTS Platform**

- 4.2.1 The FTSE MTS Indexes are calculated based on executable bids and offers sourced from the MTS inter-dealer platform. The MTS platform is not controlled by FTSE Russell and should the platform be unable to disseminate live prices for any reason, the FTSE MTS Indexes will not be updated during that period. Index users who choose to follow the FTSE MTS Indexes should be aware of this possibility and make suitable contingency arrangements

#### **4.3 Implication for Thresholds**

- 4.3.1 The threshold calculations make no distinction between historical prices arrived at using the above methodology in times of market disruption and prices obtained in the normal course of business.





## Section 5

# Price Challenges

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### 5.0 Price Challenges

- 5.1 FTSE Russell have established a means by which clients can query or challenge the price or other measures of value of any bond in the MTS Index Series.
  - 5.1.1 Users who wish to challenge a price or other measure of value can email [info@ftserussell.com](mailto:info@ftserussell.com). The email should include the following information: the terms and conditions of the issue(s) in question (Issue Name, Coupon, Maturity, and ISIN), the pricing level they observed from FTSE Russell, as well as their expectation of what the pricing should have been and any rationale for this, including a secondary source if available.
  - 5.1.2 Clients submitting a query will receive an email acknowledgement. Details of the resolution of the issue will be further communicated to the client in a timely manner. Where files are republished all clients using the affected indexes will be notified by email.

Details of challenges and ensuing actions will be tracked and reported on a quarterly basis to the FTSE Russell EMEA Fixed Income Advisory Committee.



## Appendix A: Further Information

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For further information on the FTSE MTS Indexes please visit [www.ftse.com/products/mts](http://www.ftse.com/products/mts) or e-mail [info@ftserussell.com](mailto:info@ftserussell.com).

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