

MARKET NOTICE

Johannesburg
Stock Exchange

Tel: +27 11 520 7000
www.jse.co.za

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Relates to:

- Equity Market
- Equity Derivatives Market
- Commodity Derivatives Market
- Currency Derivatives Market
- Interest Rate Derivatives Market
- Bond Market
- Bond ETP Market

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SUBJECT: IMPLIED SPREADS FOR REPORTED CORPORATE BOND TRADES

Name and Surname: Mzwandile Riba
Designation: Head - Pricing Solutions

1. EXECUTIVE SUMMARY

The JSE lists corporate bonds of various cashflow profiles. This includes, more prevalently, floating rate notes and fixed rate corporate bonds. While the cashflow characteristics of instruments that fall within these two broad categories are the largely the same, the underlying components may be structured differently by the various issuers. The daily valuations process, conducted by the JSE, seeks to capture as much market information as possible in calculating the closing prices for these instruments. It is important that this information be visible to all market participants and ideally represent actual trades and/or tradeable prices. As such, the JSE makes extensive use of available trade data and executable market quotes which are made visible to the exchange.

As part of a cascading process, the JSE applies one of a traded price, better bid or better offer, or previous closing price where none of the previously mentioned data are available. Trades are captured on a reported only basis on the JSE trading front end, Nutron. Fixed rate bonds are matched via a **Yield-To-Maturity (YTM)** as the matching criterion while for corporate bonds, members are required to match each other via an **All-In-Price (AIP)**.

The JSE's MTM process requires that members book corporate bonds by capturing the matching field and a corresponding spread to a reference instrument. In the case of fixed rate bonds, this the YTM plus a spread to a companion bond. In the case of **Floating Rate Notes (FRNs)** this the AIP plus a **mark-to-market (MTM)** spread to a variable reference rate (generally 3-month JIBAR).

The Valuations team continues observe inconsistencies with the booking of spreads. This may vary from the complete omission of spreads to the capturing of spreads that are inconsistent with observed levels for companion bonds. In the case of floating rate notes, it is accepted that not all market participants will reference the same swap curve inputs or

the same bootstrapping (interpolation) methodology. The JSE currently makes use of the JSE Linear Swap Curve to calculate FRN closing prices.

The implied spread calculation was introduced from [June 2021](#) for fixed rate bonds and [August 2021](#) for floating rate notes. The calculations for both bond types have been observed with the market, with continued conversations with market participants where misalignment is observed or a misunderstanding of the process. While the framework is tested extensively by the Valuations team, this feedback is very important to the exchange.

A consistent process will be established around the implied spread calculation where the JSE will use the implied spread as calculated from observed trades to mark corporate bonds to market. As has been outlined previously, the process makes use of the intraday calculations of the government bond mid YTM and the intraday JSE Linear Swap Curve in the case of FRNs.

The JSE has also launched a new cash bonds reference data product set in June 2021. The product set aims to provide a wider range of reference data which also ensures that all stakeholders can replicate the JSE's calculations on cash bonds with ease.

2. SPREAD TO A REFERENCE INSTRUMENT

2.1. Fixed Rate Corporate Bonds and Companion Bonds

JSE listed fixed rate bonds are valued relative to the YTM on a suitable companion bond. A spread is captured (and updated as per the mark-to-market rules) as the difference between the YTM on a corporate bond and the YTM on its companion bond. While from an economic perspective, this spread can be noted to inform various risk premia and price information relative to the companion bond, the JSE uses the pricing spread to calculate daily closing prices on corporate bonds.

A companion bond is a government bond of similar (closest to maturity) or greater maturity to the fixed rate corporate bond in question. Government bonds are suitable for this application due to the much greater liquidity that is observed in the trade in government bonds. While some issuers will specify a companion bond on the issue notice, the JSE assigns a companion bond to fixed rate bonds that are not assigned a companion bond from the issue date. The following [Market Notice](#) describes the framework that will be used to assign a companion bond to corporate bonds that have not been assigned a companion bond by the issuer. Going forward, every attempt will be made by the JSE to ensure this is done once the instrument is listed, although a regular audit will also be conducted where instruments may have been missed.

There is generally a mismatch in the duration of the corporate bond and its companion bond. There is a much larger number of corporate bonds than there are government bonds. However, given the significantly lower amount of liquidity that is observed in the corporate bond market on a per instrument basis, the use of the companion bond in this way, allows for the JSE to capture observed interest rate changes and thus applies this to the valuation of corporate bonds.

The table below depicts a selection of the relationship between fixed rate corporate bonds and their companion bonds:

Bond Code	ISIN Code	Maturity	Coupon	Companion Bond	Yield on Companion Bond	Government Bond Type	Spread (Basis Points)	MTM Yield
TN25	ZAG000079344	19-Aug-25	9.5	R186	8.59	Nominal	85	9.440
TN27	ZAG000046681	14-Nov-27	8.9	R186	8.59	Nominal	236	10.950
CLN571	ZAG000157868	12-Nov-25	9.98	R186	8.59	Nominal	133	9.920
CLN866	ZAG000188442	22-Jun-30	14.42	R2030	10.45	Nominal	403	14.480
FRS36	ZAG000077397	07-Dec-23	5.5	R197	0.82	CPI Linked	61	1.430
FRX30	ZAG000124264	31-Jan-30	9.75	R2030	9.905	Nominal	-23	9.675
HWAY30	ZAG000170648	28-Aug-30	10.365	R2030	9.905	Nominal	50	10.405
HWAY33	ZAG000130253	28-Feb-33	2.25	I2033	4.13	CPI Linked	65	4.780

2.2. Floating Rate Notes and Variable Rates

Floating rate notes (FRNs) are linked to a variable reference rate. The vast majority of listed FRNs are linked to 3-month JIBAR. A small number are linked to other JIBAR tenors and other rates such as the Prime Lending Rate. The **issue spread** is used in the determination of the coupons paid on the instrument. If the instrument is issued at par, the same spread is also used to adjust the **JSE Zero Swap Curve**, which is used to discount the projected cashflows and maturity amount to establish the closing prices for FRNs. Where the spread changes and is captured on Nutron as part of trade data, or via observed eligible market quotes, this MTM spread replaces the issue spread to adjust zero curve to discount projected coupons and the maturity amount.

The table below is a selection of floating rate corporate bond instruments showing the prevailing relationship between the issue spread and their MTM spread. Where the MTM spread is less than the value of the issue spread, the instrument will be priced at a premium to par (clean price value greater than 100). Where the MTM spread is greater than the value of the issue spread the instrument will be priced at a discount to par (clean price value less than 100).

Bond Code	ISIN Code	Maturity	Issue Spread (Basis Points)	Coupon	Reference Rate	JIBAR at Last Reset	MTM Spread (Basis Points)
ABF003	ZAG000165499	18-Jul-24	190	6.983	3M JIBAR	5.083	160
ASN575	ZAG000174459	13-Feb-23	195	6.875	3M JIBAR	4.925	242
CLN856	ZAG000188095	23-Sep-26	317	8.253	3M JIBAR	5.083	317
FRC385	ZAG000183658	15-Feb-25	140	5.908	3M JIBAR	4.508	140
GRT38	ZAG000162801	31-Mar-26	158	6.588	3M JIBAR	5.008	158
IBL149	ZAG000170499	25-Aug-25	105	5.942	3M JIBAR	4.892	105
NDAL03	ZAG000176868	06-Jun-25	250	7.425	3M JIBAR	4.925	250
TFS170	ZAG000181892	30-Nov-26	112	6.012	3M JIBAR	4.892	119
WHL03	ZAG000154477	02-Oct-23	154	6.59	3M JIBAR	5.05	123

3. CALCULATION OF THE IMPLIED SPREAD

The booking of corporate bonds requires that a MTM spread is captured along with the required matching field. For fixed rate corporate bonds, this would be a MTM spread being captured along with the YTM on the corporate bond. For FRNs this would entail a MTM spread being captured along with the AIP of the FRN. Alternatively, the JSE calculates an implied spread for both fixed rate corporate bonds and floating rate notes. This paper informs the adoption of the implied spread as the framework that the JSE will lean upon when determining traded spreads. The implied spread will still be used in conjunction with eligible market quotes as observed on broker screens (including screens provided by market makers) to establish the MTM spread.

3.1. Implied Spread for Fixed Rate Corporate Bonds

The implied spread for fixed rate corporate bonds is calculated based on the observed 3pm MTM government bond yields. This calculation uses the difference between the observed government bond YTM and the traded YTM on the corresponding corporate bond.

An example of the calculation would be as follows:

ASN538 Traded YTM = 10.4%
 R186 3PM YTM = 8.55%
 Implied Spread = 185 basis points

EOD MTM

R186 YTM = 8.57%
 ASN538 MTM = 10.42%

3.2. Implied Spread for Floating Rate Notes

The implied spread calculation for floating rate notes uses more inputs given the more complex calculation of FRNs. Given the inconsistency observed with the capturing of FRN spreads, the implied spread calculation framework ensures consistency with the JSE's own swap curve calculation by aligning with the matching criterion (the AIP) traded on the FRN.

The examples below illustrate the booking of FRNs where the spread is captured correctly and where the spread is not captured at all.

In this first example the spread is captured correctly by the members as per the swap curve used to determine the traded price. The intraday JSE Linear Swap Curve would have returned a spread of 202.3 vs the captured 200. The established implied spread would thus have returned a MTM AIP closer to the matched traded AIP.

Instrument	FRS199
Matched Traded AIP	100.21224
Previous MTM Spread	200
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Booked Spread	200
MTM on Booked Spread	100.27187
Difference to Matched AIP	0.05963
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Implied Spread	202.3
MTM on Implied Spread	100.21254
Difference to Matched AIP	0.00030

In the second example below the spread is not captured at all by the members. The implied spread calculation running alongside, gives a value that is close to the previous closing spread. The implied spread does achieve a closing MTM value that is also closer and consistent with the matched traded AIP.

Instrument	ABFN45
Matched Traded AIP	100.46833
Previous MTM Spread	136
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Booked Spread	Not Captured
MTM on Booked Spread	N/A
Difference to Matched AIP	N/A
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Implied Spread	137.6
MTM on Implied Spread	100.46963
Difference to Matched AIP	0.00130

4. IMPLEMENTATION

The implied spread calculation works consistently in the case where spreads are booked (whether correctly or not) and the case where spreads are omitted entirely. To establish consistency in the process, the JSE will implement the implied spread calculation to establish traded pricing spreads from **Tuesday, 13 September 2022**. We believe that this solution would ensure a more consistent basis for establishing the spread the JSE uses to calculate closing prices and aligns closer to the actual **traded prices** on corporate bonds.

This document is not confidential and should be distributed as widely as possible to all stakeholders.

Should you have any queries regarding this Market Notice, please contact valuations@jse.co.za

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