

## MARKET NOTICE

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Stock Exchange

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**Number:** 448A/2022

Relates to:

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

Date: 9 September 2022

**SUBJECT:** JSE LISTED INVERSE FLOATING RATE NOTES

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**Designation:** Head – Pricing Solutions

Dear Client,

### 1. EXECUTIVE SUMMARY

The JSE lists floating rate instruments that are linked to various variable reference rates such as 3-month JIBAR (most predominantly), other JIBAR tenors and the Prime lending rate. The instruments that are currently listed on exchange include Floating Rate Notes (**FRNs**), Inverse Floating Rate Notes (**IFRNs**) and other combinations of these, in the form of structured notes. The JSE publishes methodology, that is applied in the current valuation system, on the [JSE website](#). This, however, does not include methodology for IFRNs.

Historically, to accommodate these in the daily valuation, an equivalent spread **over** 3-Month JIBAR has been solved for that instrument at issue to align to the issue price. The instrument would then have been priced as an FRN. Where significant changes in interest rates occur, there may be a significant divergence in the value of an IFRN if valued using an IFRN model and the current methodology, applied by the JSE, that accommodates the instruments.

The JSE is undergoing a broad review of the methodologies being applied to various instruments in the fixed income market, including adopting more robust models that reflect the underlying cashflow profiles of each instrument. With the recent moves in interest rates, observed in the market, IFRNs are under the spotlight. As a result, the Valuations team has fast tracked the development of a more robust IFRN pricing model. The plan is to implement this in the following week by **Friday 16 September 2022**.

## 2. INVERSE FLOATING RATE NOTE PRICING

### 2.1. Determining the Coupons for Inverse Floating Rate Notes

Inverse Floating Rate Notes are priced where coupons are linked to both a fixed rate and a floating rate. The equations below illustrate the difference between the coupons on a FRN versus an IFRN:

- Floating Rate Note:  $Coupon = \frac{Reference\ Rate + Issue\ Spread}{Coupon\ Frequency}$
- Inverse Floating Rate Note:  $Coupon = \frac{Fixed\ Rate - Reference\ Rate}{Coupon\ Frequency}$

In either instance, a cap or a floor may be applied to the annualized coupon rate as specified in the instrument's Applicable Pricing Supplement. A coupon rate floor is more common with IFRNs given the possibility that the reference rate may become bigger than the fixed rate. The coupon rate will always be capped at the fixed rate (assuming that the reference rate remains positive).

In both instances, the future coupons (excluding where the reference rate has been fixed for the next coupon) are calculated from the forward curve as derived from the JSE Zero Swap Curve. In the case of IFRNs, the forward rate is subtracted from the fixed rate.

### 2.2. Discounting Coupons and the Redemption Amount

The coupons and redemption amount are discounted using the JSE Zero Swap Curve. In each instance, a mark-to-market (MTM) spread (positive or negative) may be added to the zero swap curve and the discount factors for each coupon tenor determined. The illustration below shows the pricing for a listed IFRN, FRS308.

All in Price	100.83607
Accrued Interest	0.90962
Clean Price	99.92646

Bond Code	<b>FRS308</b>
Transaction Date	08-Sep-22
Business Days to Settlement	1
Settlement Date	09-Sep-22
Last Coupon Date	29-Jul-22
Next Coupon Date	31-Oct-22
Books Closed Date	27-Oct-22
Issue Date	18-Jul-22
Pricing Redemption Date	31-Jul-23

Reference Rate	3-month JIBAR
Fixed Rate	13.63
Last JIBAR Fixing	5.725
Coupon Rate (Next Coupon)	7.905
Coupon Frequency	Quarterly

PV of Redemption Amount	94.11956
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Coupon	Coupon Dates	Zero Rate (NACQ)	3 Month Forward	Coupon Rate	Coupon Amount	PV of Coupons
1	31-Oct-22	5.67040	5.72500	7.90500	2.03581	2.01954
2	31-Jan-23	6.04195	6.25250	7.37750	1.85953	1.81606
3	28-Apr-23	6.46933	7.17474	6.45526	1.53865	1.47741
4	31-Jul-23	6.86456	7.83975	5.79025	1.49119	1.40350

### 3. INDICATIVE IMPLICATIONS TO CURRENTLY LISTED INVERSE FLOATING RATE NOTES

The different listing dates for the currently listed IFRNs imply that the changes to interest rates observed over time would affect different IFRN instruments differently. The attached file is an indication as at the close on 8 September 2022 (assuming T+3 settlement) for the differences between the current values and what the values would be if valued in the new model.

### 4. IMPLEMENTATION

The model for IFRNs will be implemented for the valuations as from the close on **Friday, 16 September 2022**. We believe that this solution would ensure more consistent pricing for these instruments, in line with expected values. A methodology document will also be published to the JSE website in due course.

Should you have any queries regarding this notice, please contact [valuations@jse.co.za](mailto:valuations@jse.co.za). This document is not confidential and should be distributed as widely as possible to all stakeholders.

This Market Notice is available on the website at <https://clientportal.jse.co.za/communication/jse-market-notices>