3 Month JIBAR Futures

An introduction to interest rate risk

The level of interest rates affects the level of prices of goods and services within an economy. As markets move, the volatility in interest rates introduces interest rate risk. The management of interest rate exposures allows participants to hedge against adverse movements in the levels of rates. While domestic money markets trade in the wholesale over-the-counter (OTC) market, the **Johannesburg Stock Exchange (JSE Limited)** has introduced **short-term interest rate (STIR) futures** as a response to market participants' needs to manage interest rates effectively within a regulated environment.

The JSE Limited is regulated by the Financial Services Board in terms of the Financial Markets Control Act of 1989 and the Stock Exchange Control Act of 1985, to ensure that all business is conducted in an orderly, transparent and efficient manner.

The interest rate cash markets

In the South African financial markets, **JIBAR (Johannesburg Interbank Agreed Rate)** is used as the barometer of short-term interest rate movements. JIBAR is an average rate (determined from borrowing and lending rates) that is independently derived from quotes obtained from a number of different banks for one, three, six and twelve month terms. In particular, the **3 month JIBAR rate is used as a benchmark** and is quoted as a yield and disseminated to the market at 11h00. every day on the Reuters page SAFEY.

Understanding 3 Month JIBAR Futures

The 3 month JIBAR Futures contract is a future based on the 3 month JIBAR rate. The future is traded electronically on the JSE Limited's Nutron platform. The JIBAR Future is a standardised product with characteristics as displayed in the contract specifications.

How are JIBAR Futures quoted?

The 3 month JIBAR Futures are quoted in the same way as the underlying JIBAR rate, namely on a **yield basis**.

The price is determined from the yield using the formula: 100 – yield. The **standard contract size** is R100,000 and the contract value changes in terms of a fixed R2.50 per basis point (1/100 of 1 percent) per contract. Thus a move of rates from 6.530% to 6.500% represents a move of 3 basis points which represents a change of R7.50 (3bps x R2.50) in the value of a contract.

The implied rate of the future is termed the "forward/forward rate", and it refers to the forward interest rate for a specified time period starting on a forward date. Hence in the case of a JIBAR Dec 2010 future, it represents the 3 month rate (forward rate) from the 3rd Wednesday in December 2010 (forward date).

Transparency on JSE's electronic central order book

The JSE offers continuous electronic trading with immediate disclosure of competitive prices in real-time through the **Nutron system** on the central order book. Market practitioners have access to bid and offer prices as well as complete transparency and market depth. This system is responsible for the display of prices, trading and matching of transactions. Subject to certain conditions, transactions may be dealt off-screen and reported to the exchange as report-only trades.

On the central order book, **prices will be displayed by dedicated liquidity providers.**

Contract months

The contract will expire at 11h00 on the third Wednesday of the relevant expiry month in the quarterly and serial months as follows:

» *Quarterly contracts:* Two years of the standard quarterly cycle of March, June, September and December are listed at all times.

» *Serial contracts:* In addition, four near-term contracts are listed at all times such that there are six consecutive near months listed. Referred to as *serial* contracts, they are identical to the standard JIBAR quarterly contracts in all respects except that they expire in months other than the standard quarterly contracts.

For example, on 26 January 20xx, the following contracts are available: February, April, May and July 20xx in addition to the March and June 20xx quarterly contract. With the expiry of the February 20xx contract, the August 20xx serial contract is listed immediately and so forth.

The use of serial contracts provides the opportunity to manage short-term interest rate exposure around the Monetary Policy Committee dates where changes to the Repo rate are determined.

Mark-to-Market (MTM) and settlement

In order to mitigate risk, all open positions are **explicitly marked-to-market**. The marked-to-market process involves valuing the brought-forward positions and traded contracts using a settlement yield. The JIBAR Futures contracts are **cash-settled** where the final settlement rate is the 3 month JIBAR fixing rate on the expiry date.

Margining positions

All transactions are cleared by the JSE's clearing house via the clearing members which provides a credit risk mitigation process to guarantee trade performance. The JSE's clearing house, SAFCOM, becomes the counterparty to each trade once each transaction has been matched and confirmed ensuring that settlement takes place on each trade. To protect against non-performance, SAFCOM employs a process known as margining which includes initial margin and variation margin. Hence this process eliminates the need for the determination of bilateral counterparty credit risk.

Initial margin

When trading futures, it is not necessary to pay the full nominal value of the underlying instrument. Rather, futures market participants are required to post initial margin into a margin account of the clearing house which accrues interest at market-related rates. This amount is just a fraction of the underlying nominal value, and can be thought of as a good faith deposit, which is returned to the trading participant when the position is closed out or when the contract expires. Margin is due to cover the largest expected negative value that the position is likely to encounter. This is known as Initial Margin collected on the morning after the trade date (t+1).

Variation margin

Futures are marked-to-market on a daily basis and the profit or loss resulting from this is called Variation Margin. This means that profits and losses are realized and paid over in cash daily, based on the difference between the current and previous day's closing market prices.

Trading the JIBAR Futures

The JIBAR Futures contract represents an efficient way to obtain exposure to the South African interest rate markets. Trading behaviour and liquidity make it ideal for trading and hedging interest rate exposures. The behaviour of traders can be defined as follows:

» Interest rates expected to fall → Go Long (Buy a JIBAR Future)

» Interest rates expected to rise → Go Short (Sell a JIBAR Future)

Note that yields move in opposite direction to prices; hence in order to make a profit on a trade, a dealer needs to buy at a high yield and sell at a lower yield. This implies "Buy High, Sell Low". The market screens will display a buy yield as higher than a sell yield.

Comparison to Forward Rate Agreements

Futures are exchange traded instruments while FRAs are over-the-counter (OTC) instruments. FRAs are used in the wholesale markets to hedge against interest rate movements. To profit from an increase in rates, a trader will buy a FRA (equivalent to paying a fixed rate on the FRA) or sell a STIR future. Likewise to profit from a decline in interest rates; a trader can sell a FRA (receive the fixed rate) or buy a STIR future.

How to close a trade position

A futures position can be closed out by entering into an opposite trade. Thus a long position can be closed by selling an equivalent contract or letting it expire. The difference between the purchase and sale price represents the profit or loss of the position.

Trading fees

The exchange charges a fee to trade the contract based on a fee per contract traded per side. This fee is subject to change from time to time.

Strategies using JIBAR Futures

» Speculating upon the future direction of interest rates
» Managing money market portfolios
» Hedging over-the-counter (OTC) derivatives: FRAs and interest rate swaps (floating rate)
» Hedging borrowings and investments
» Spread trading
» Arbitrage
» Manage interest rate risk inherent in a futures portfolio

Example of a trade in the JIBAR Futures contract

A dealer believes that short dated interest rates will decline. In order to profit from this anticipated movement in rates, the dealer decides to BUY ten 3 month JIBAR Futures. In this example, the dealer buys the 3 month JIBAR futures at a yield of 7.58%. On day 1, the contract is MTM at 7.55% and the dealer makes a profit of R75. The profit/loss account is represented by the variation margin flows as follows:

Market Screen on Day 1			
Bid Volume	Bid	Offer	Offer Volume
100	7.66%	7.58%	100
50	7.67%	7.55%	20
20	7.70%		

Day	Description	Number of Contracts	Yield %	MTM	Position Yield Change	Initial Margin	Variation Margin	Cash Flow	Accumulated Cash Flow
0				7.58%					0
1	Dealer buys 10 contracts	10	7.58%	7.55%	-0.03%	-1,000	75	-925	-925
2				7.62%	0.07%		-175	-175	-1100
3				7.52%	-0.10%		250	250	-850
4	Dealer closes position	-10	7.45%	7.45%	-0.07%	1,000	175	1,175	325

Day 1 Variation Margin: ZAR 2.50 * 3 basis points (bp) * 10 contracts   = ZAR 75 gain
Day 2 Variation Margin: ZAR 2.50 * 7 bp * 10 contracts   = ZAR 175 loss
Day 3 Variation Margin: ZAR 2.50 * 10 bp * 10 contracts   = ZAR 250 gain
Day 4 Variation Margin: ZAR 2.50 * 7 bp * 10 contracts   = ZAR 175 gain

Note that on Day 1, the dealer pays an initial margin of ZAR 100 per contract * 10 contracts = ZAR 1,000 for the open position. This margin, together with interest earned, is returned to the dealer after the position is unwound or closed out.

Contract specifications

Contract	3 month JIBAR Futures
Contract Base	The 3 month Johannesburg Interbank Agreed Rate (JIBAR)
Contract Notional	ZAR 100,000 face value
Quotation Style	The effective interest rate per contract
Contract Months	March, June, September and December cycle extending 8 quarters ahead plus the 4 nearest serial months such that the 6 nearest months are available for trading.
Expiry Dates and Times	11h00 on the 3rd Wednesday of the contract months or in the event that this day falls on a South African public holiday, the first South African business day prior to the 3rd Wednesday of the relevant month.
Minimum Tick Size	0.001% (1/10 of a basis point)
Basis point value	ZAR 2.50 per basis point per contract
Mark-to-Market	Explicit Daily Fixing
Settlement	Cash
Settlement Yield (for daily m-t-m)	Closing mark-to-market yield of the contract
Settlement Yield (on expiry)	3 month JIBAR rate on the expiry date
Initial Margin Requirement	R100 per contract (as at 30 October 2009, and subject to change from time to time according to market conditions)
Margining	Risk position margined according to the Spread margining with offset.
Trading Time	09h00 – 17h00 on South African business days

Note: Contract specifications are subject to change from time to time.

Contact information

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This product is brought to the market in conjunction with the following liquidity providers:

ABSA CAPITAL   NEDBANK CAPITAL   RAND MERCHANT BANK A division of FirstRand Bank Limited   Standard Bank