

## MARKET NOTICE

Johannesburg  
Stock Exchange

Tel: +27 11 520 7000  
[www.jse.co.za](http://www.jse.co.za)

**Number:** 19/2019  
**Relates to:** ☐ Equity Market  
☐ Equity Derivatives  
☐ Commodity Derivatives  
☒ Interest Rate and Currency Derivatives  
**Date:** 24 January 2019

**SUBJECT:** **ALIGNMENT OF THE JSE NOMINAL BOND CURVE WITH THE CONSTITUENTS OF THE GOVI INDEX**

**Name and Surname:** Mzwandile Riba  
**Designation:** Head - Data Solutions

## ALIGNMENT OF THE JSE NOMINAL BOND CURVE WITH THE CONSTITUENTS OF THE GOVI INDEX

### 1. INTRODUCTION

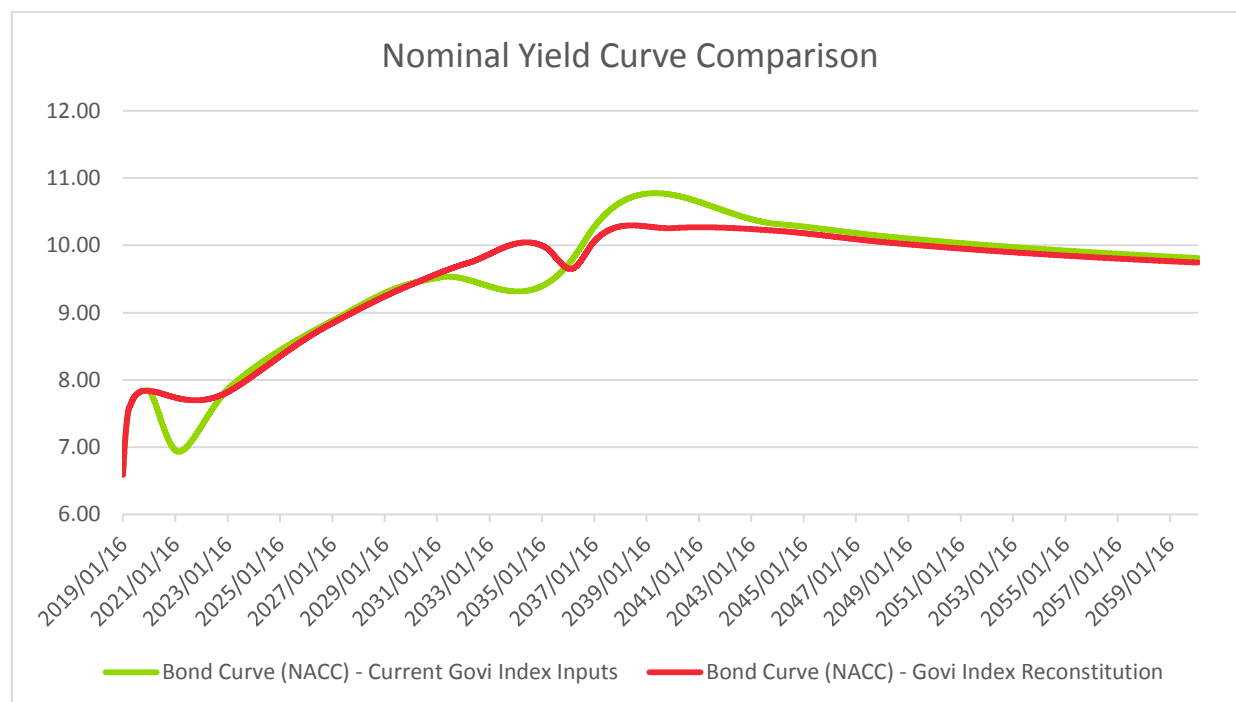
The JSE calculates (bootstraps) a suite of JSE Zero-Coupon Yield Curves on a daily basis. These include the Nominal Bond Curve (bootstrapped using the constituents of the GOVI index), the Nominal Swap Curve and the Real Bond Curve (bootstrapped using the constituents of the IGOV index). The JSE Fixed Income Indices are reviewed quarterly on the first Thursday of each of February, May, August and November and occasionally reconstituted based on pre-set rules.

### 2. ALIGNMENT OF THE NOMINAL BOND CURVE CONSTITUENTS

The JSE confirms that the inputs to the Nominal Bond Curve will be aligned with the current constituents of the GOVI index with effect from Thursday, **7 February 2019**. This will see the R2032, R2035 and R2040 being added as curve components and the R208 and R213 being removed. The three additions will be included alongside the R2023, R186, R2030, R209, R2037, R2044 and the R2048 as the government bond inputs (along with the shorter dated money market instruments) that comprise the full set of instruments used for the construction of the Nominal Bond Curve.

### 3. OBSERVED CHANGES TO THE CURRENT YIELD CURVE

The following graph illustrates and indicative view the resultant change to the current yield curve using data as at 15 January 2019.



The table below illustrates a few scenarios that calculate the present value (PV) of an assumed set of future cashflows on the two yield curves:

- We look at seven different maturities in five year intervals, ranging from five years and going out to thirty years. We also observe the maximum term that the yield curves are extrapolated to of approximately 41 years. This indicative illustration shows the differences in the PVs of the cashflows as calculated on the two curves.
- The four different cashflow scenarios are tabulated below as follows:
  - Scenario 1: An even set of cashflows occurring monthly in arrears.
  - Scenario 2: An even set of cashflows occurring monthly in arrears at an assumed coupon rate of 7% per annum with the total nominal amount payable at the maturity date.
  - Scenario 3: An even set of cashflows occurring semi-annually in arrears.
  - Scenario 4: An even set of cashflows occurring semi-annually in arrears at an assumed coupon rate of 7% per annum with the total nominal amount payable at the maturity date.

Term (Years)	Maturity	Scenario 1	Scenario 2	Scenario 3	Scenario 4
5	15-Jan-2024	-0.49%	0.22%	-0.48%	0.22%
10	15-Jan-2029	-0.14%	0.15%	-0.13%	0.16%
15	15-Jan-2034	-0.57%	-3.41%	-0.63%	-3.48%
20	15-Jan-2039	-0.63%	1.03%	-0.62%	1.06%
25	15-Jan-2044	-0.23%	0.05%	-0.24%	0.05%
30	15-Jan-2049	-0.15%	0.03%	-0.15%	0.03%
41	15-Jan-2060	-0.06%	0.01%	-0.06%	0.01%

- The larger differences observed are those whose maturities are most affected by the areas in the term structure where the largest deviations between the curves are observed.
- We observe relatively small disparities between the differences in the PVs where we vary the frequency of cashflows to the same term to maturity.

#### 4. NEXT STEPS

The quarterly review of the JSE Fixed Income indices informs the makeup of the two government bond curves, namely the Nominal Bond Curve and the Real Bond Curve. It may occur from time to time that the review process prescribes a reconstitution based on the pre-set rules of the exchange. The 10 constituents of the GOVI index are used explicitly to construct the Nominal Bond Curve as will be the case as a result of the reconstitution which is effective on Thursday, **7 February 2019**. The JSE will continue to ensure that strict adherence is given to any changes that may occur to the JSE Fixed Income indices.

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

Should you have any queries regarding this notice, please contact [valuations@jse.co.za](mailto:valuations@jse.co.za).

This Market Notice will be available on the website at <https://www.jse.co.za/redirects/market-notices-and-circulars>