

## Alpha Bond Index

As of 30/12/2016

### Objective

The SF Markets Alpha Bond Index (AlphaX) has been developed to provide an independent and neutral reference for both local and foreign investors to assess the performance of Nigerian Sovereign bonds. The index is designed to serve as an underlying for various investment products such as Index Funds and Exchange Traded Funds (ETFs). As of 01 July 2016, the index tracked over NGN 5tn (\$17.68bn) of Nigerian Sovereign debt. The AlphaX is a market value weighted total return index and denominated in Naira and US Dollars.

### Index Features

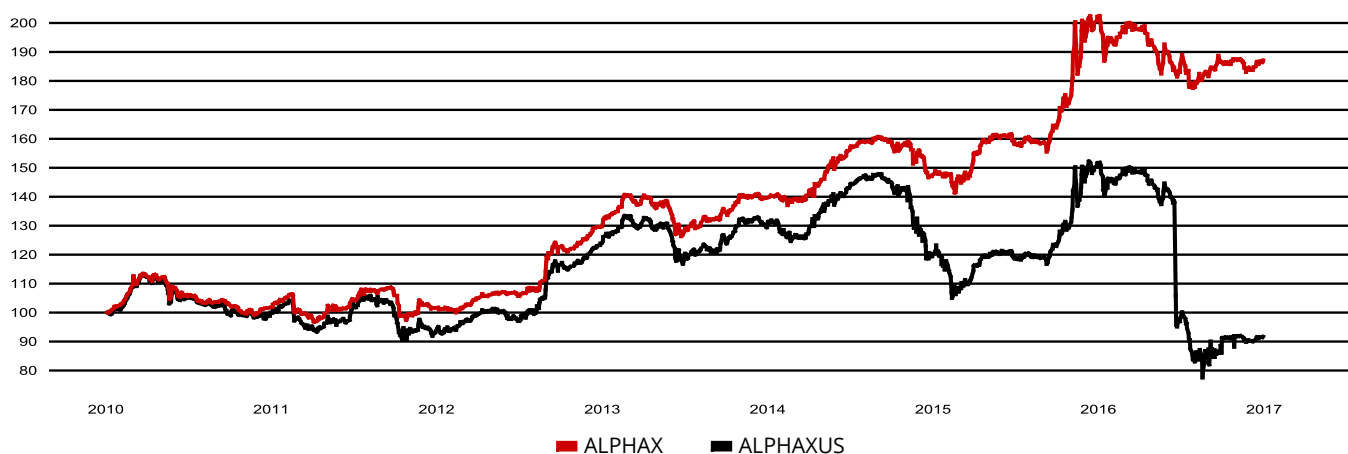
<b>Index Level</b>	107.06	<b>Number of components</b>	13
<b>Index Universe</b>	Publicly quoted bonds listed in the Nigerian Debt Market	<b>Base Date</b>	02 November 2015
<b>Launch Date</b>	04 January 2016	<b>Back History</b>	From 04 January 2010
<b>Currency</b>	NGN, USD	<b>Review Frequency</b>	Monthly
<b>Index Calculation</b>	Total Return, Clean Price	<b>Amount Outstanding</b>	Minimum NGN 150bn
<b>Weighting Method</b>	Market Value Weighted	<b>Time to Maturity</b>	Minimum 1 Year
		<b>Index Dissemination</b>	Intraday, End of Day

For a full description of the index methodology please visit: <http://www.scottfreemarkets.com/index-methodology-and-policy/index-guide>

### Index Identification

Index Name	Index Type	Code	ISIN	Reuters/Bloomberg
Alpha Bond Index	Total Return NGN	ALPHAX	DE000SLA1QJ8	.ALPHAX/ALPHAX
Alpha Bond Index USD	Total Return USD	ALPHAXUS	DE000SLA1QK6	.ALPHAXUS
Alpha Bond Clean Price Index	Price Return NGN	ALPHACPX	DE000SLA1QL4	.ALPHACPX
Alpha Bond Clean Price Index USD	Price Return USD	ALPHACPXU	DE000SLA1QM2	.ALPHACPXU

### Performance (ALPHAX vs. ALPHAXUS)<sup>1</sup>



### Performance Figures for ALPHAX

Index	1D	30D	YTD	1Y	3Y	5Y	10Y	Max
Absolute Returns	0.24%	1.86%	-7.33%	-7.45%	34.09%	84.24%	-	87.23%
Annualized Returns		25.23%	-7.34%	-7.44%	10.27%	12.99%	-	9.39%
Volatility		3.51%	8.84%	8.86%	10.74%	9.43%	-	9.16%
Sharpe Ratio (Risk-Adj Return)		6.45	-0.83	-0.75	0.98	1.39	-	1.00
VaR 95\99				-4.38%	\ -8.40%			-3.59% \ -17.62%
CVaR 95\99				-7.23%	\ -8.40%			-5.04% \ -17.62%
Standard Deviation		0.22%	0.56%	0.56%	0.68%	0.59%	-	0.58%
Max. Drawdown		-0.49%	-12.40%	-12.40%	-12.40%	-12.40%	-	-14.75%

<sup>1</sup> Index performance data for the Alpha Bond Index and Alpha Bond Index USD prior to Nov 02, 2015 is back-tested (data that shows how the index could have performed over a certain period had it existed). Please note that the back-test data is hypothetical and does not serve as a guarantee of actual or future performance.

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## Index Statistics

<u>Market Capitalization</u>	<u>NGN</u>	<u>USD</u>	
Full	5,375,635,292,126	17,066,593,804	
<u>Components Sizes</u>	<u>NGN</u>	<u>Weights</u>	<u>%</u>
Largest	917,248,240,538	Largest	17.06%
Median	353,104,755,495	Smallest	2.27%
Smallest	122,013,259,669		
Average	413,510,407,087		
<u>Index Analytics</u>	<u>Value</u>		
Average Weighted Coupon	13.24	Modified Duration <sup>3</sup>	3.99
Average Weighted Maturity	8.93	Index Market Value vs. GDP <sup>4</sup>	5.70%
Average Weighted Price	92.49	Average Weighted Coupon vs. Inflation <sup>5</sup>	0.72
Yield to Maturity <sup>2</sup>	16.02%	Average Weighted Coupon vs. Interest Rate <sup>6</sup>	0.95

## Maturity Banding Breakdown



Maturity Band	Weighting	No of Bond Components
1-3 years	15.19%	3
3-5 years	16.21%	2
5-7 years	12.28%	1
7-10 years	21.07%	2
10-15 years	12.54%	3
15+ years	22.70%	2

## Top 5 Components

Name	Maturity date	Sector	Weighting
12.1493 NGN 18-Jul-2034	18-Jul-2034	Sovereigns	17.06%
14.2 NGN 14-Mar-2024	14-Mar-2024	Sovereigns	13.13%
16.39 NGN 27-Jan-2022	27-Jan-2022	Sovereigns	12.28%
15.54 NGN 13-Feb-2020	13-Feb-2020	Sovereigns	11.83%
10.0 NGN 23-Jul-2030	23-Jul-2030	Sovereigns	7.95%

<sup>2</sup> Yield to maturity is calculated at Month-End.

<sup>3</sup> Modified Duration is calculated at Month-End.

<sup>4</sup> GDP data for Nigeria is sourced from World Bank.

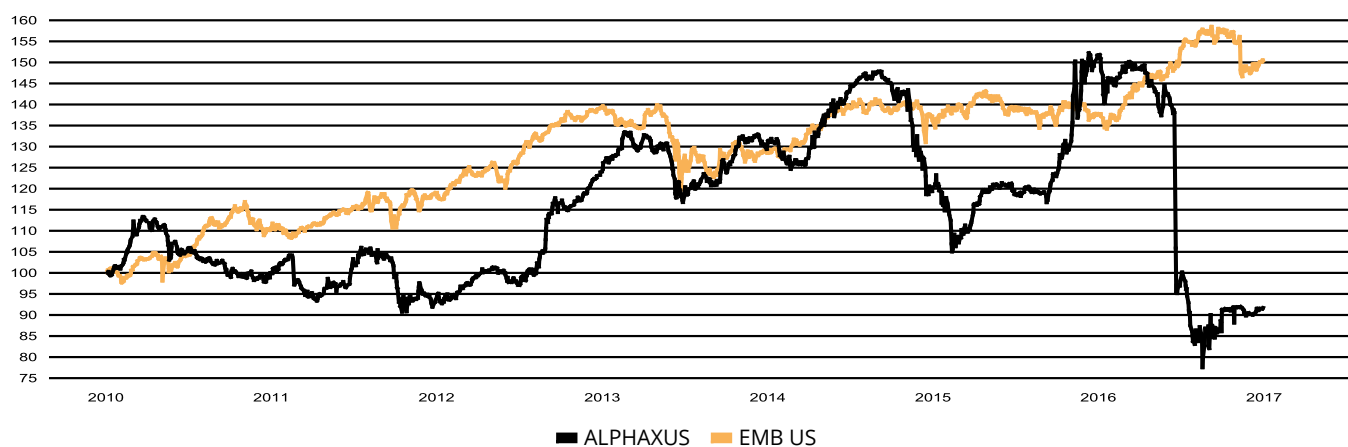
<sup>5</sup> Inflation data for Nigeria is sourced from Trading Economics.

<sup>6</sup> Interest Rate data for Nigeria is sourced from Trading Economics.

## Alpha Bond Index

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### Performance (ALPHAXUS vs. iShares J.P. Morgan USD Emerging Markets Bond ETF)<sup>7</sup>



<sup>7</sup> Index performance data for the Alpha Bond Index USD prior to Nov 02, 2015 is back-tested (data that shows how the index could have performed over a certain period had it existed). Please note that the back-test data is hypothetical and does not serve as a guarantee of actual or future performance. EMB US refers to the iShares J.P. Morgan USD Emerging Markets Bond ETF.

### Performance Figures for ALPHAXUS

Index	1D	30D	YTD	1Y	3Y	5Y	10Y	Max
Absolute Returns	0.24%	1.85%	-39.47%	-39.50%	-29.02%	-1.84%	-	-8.20%
Annualized Returns		24.99%	-39.49%	-39.44%	-10.79%	-0.37%	-	-1.22%
Volatility		3.89%	34.73%	34.67%	23.29%	18.92%	-	17.11%
Sharpe Ratio (Risk-Adj Return)		5.81	-1.15	-1.14	-0.48	-0.02	-	-0.10
VaR 95\99				-15.49% \ -93.28%				\ -100.00%
CVaR 95\99				-15.49% \ -93.28%				\ -100.00%
Standard Deviation		0.25%	2.19%	2.18%	1.47%	1.19%	-	1.08%
Max. Drawdown		-0.56%	-48.99%	-48.99%	-49.13%	-49.13%	-	-49.13%

### Comparison Figures

Alpha (ALPHAXUS vs EMB US)	0.0078	Correlation (ALPHAXUS vs EMB US)	-0.0308
Beta (ALPHAXUS vs EMB US)	-0.0736	R-Squared (ALPHAXUS vs EMB US)	0.0004

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