NSE-MERISTEM STYLE INDEX METHODOLOGY BOOK

March 2019

CONTENT

1. INTRODUCTION

1.1. ABOUT THE INDEX

The NSE-Meristem Value Index is a style index designed to meet the investment needs of value-oriented investors, by providing an index they can buy into. Similarly, the NSE-Meristem Growth Index is designed to meet the investment needs of growth-oriented investors by providing an index they can buy into.

1.2. BRIEF ON STYLE INDEX STRATEGY

Style investing refers to an investing philosophy designed to gain exposure to the capital market, whether equities market or fixed income market, based on some pre-set criteria. The style index eligibility universe is screened based on 5 value factors; dividend yield, historical earnings yield, forward earnings yield, book to price ratio, and ratio of current earnings yield to historical earnings yield, and 5 growth factors; historical revenue growth rate, historical earnings growth rate, number of consecutive quarters of earnings growth, projected earnings growth rate, and return on asset. The composite standardized value for each constituent determines the stock's assignment as either a growth stock or a value stock.

1.3. OBJECTIVE OF THE INDEX

The NSE-Meristem Indices are aimed at providing benchmarks to track the respective performance of value and growth stocks that are traded on the floor of the Nigerian Stock Exchange ("NSE"). Other objectives are:

- Deepening the capital market by providing a broader product portfolio for investors.
- Entrenching investment discipline among fund managers.
- Providing more appropriate benchmarks that align with fund managers' stated investment disciplines.
- Providing a means of effective performance attribution for managers.
- Facilitating better manager selection and appraisal.
- Providing a leverage for other investment products such as ETFs and derivatives.

## 2.	INDEX CONSTRUCTION METHODOLOGY

In constructing the index, the under listed attributes of best practice in index construction were adhered to:

- **Relevance** and **appropriateness** for the Nigerian equities market and the respective styles they aim to track;

- **Comprehensiveness** in capturing the available investment opportunities within the defined styles;

- **Investability,** which informs the stringent liquidity criteria as the first screening measure for eligible stocks. The constituents can easily be replicated, and the indices can be held passively;

- **Transparency** in security selection, maintenance rules, calculation methodologies, and announcement of changes prior to implementation;

- **Timeliness** in dissemination of index results and regular publishing to investors;

- **Measurability:** the performance can easily be calculated for both indices at a reasonable frequency; and

- **Unambiguity:** the index construction methodology is objective, and the index constituents and weights clearly defined.

### 2.1.	ELIGIBILITY UNIVERSE

The securities eligible for inclusion in the Indices are all listed equities on the floor of the Nigerian Stock Exchange. By implication, OTC Traded equities, Fixed Income securities, Derivatives, ETFs and Mutual Funds are excluded.

### 2.2.	ELIGIBILITY CRITERIA

Within the eligibility universe, only stocks that are listed on the Premium and Main boards of the Nigerian Stock Exchange are considered. Inclusion of other boards will be determined on their merit whenever they are launched.

### 2.3.	INVESTABILITY CRITERIA

Stock liquidity is the primary investability criterion as investors must be able to track the index without creating significant market impact.

The number of days the stock has traded in a selected number of years relative to the market's total trading days over the same period. At a minimum, eligible stocks must have traded for at least 95% of the trading days of the market in each half-year period for the previous three (3) years up to the point of each review, that is, for December review period, 3 full calendar years, and for June review period, 3 trailing years to June.

Stocks that meet the liquidity criterion are assumed to have reasonable level of float to be investible. In addition, there is no minimum market capitalization for screening the stocks.

2.4. NSE-MERISTEM INDEX CONSTITUENTS

A multifactor approach is adopted in selecting the constituents of the Indices. This approach has an added benefit of index stability. The value-growth space is a spectrum and thus, the style assignment is a function of the orientation along the spectrum.

The factors are expressed in such a way that the interpretation of the average style factor is easily understood and meaningful. This is a major advantage of the NSE-Meristem Indices. Case in point, a high dividend yield signals a value orientation just as a low price-to-earnings ratio. The average of the two will pose challenges determining whether a high or a low score signals a value orientation. Thus, the transformation of some of the style factors.

The style factors being considered are

a. Value Factors

1. Average Dividend Yield
2. Historical Earnings to Price Ratio
3. Forward Earnings to Price Ratio
4. Book Value to Price Ratio
5. Ratio of current to historical earning yield

b. Growth Factors

1. Historical revenue growth rate
2. Historical earnings growth rate
3. Number of consecutive quarters of earnings growth.
4. Projected earnings growth rate

5. Return on Asset

2.4.1. VALUE STOCK FACTORS

A value stock is defined as a stock that has a high value score based on the 5 value factors and a low or negative growth score based on growth factors. *The value factors place strong emphasis on the price that investors are willing to pay to purchase the company's earnings, book value, dividend, among others, and not so much about the growth prospects of the company.* The emphasis is therefore on buying assets in place cheaply, rather than buying into expected future growth to be realized.

2.4.2. GROWTH STOCK FACTORS

A growth stock is a stock with a higher growth orientation based on the 5 growth factors stipulated below, and a lower or negative value orientation based on the aforementioned value factors. The growth factors are largely independent of the price of the stock, but rather reflect the historical and potential growth in key value drivers of the company.

1. Historical revenue growth rate

2. Historical earnings growth rate

3. Number of consecutive quarters of earnings growth.

4. Projected earnings growth rate

5. Return on Asset

2.4.3. HANDLING OUTLIERS

Any stock with standardized value, outside a pre-determined number of standard deviations (+/- 2.5x) from the average, will be allocated the value at the +/- 2.5x standard deviations.

2.4.4. IDENTIFICATION AND TREATMENT OF RESTRICTED STOCKS

Irrespective of the style's z-score, any stock classified as 'Restricted Stock' will not be assigned any style, rather, they will be categorized as 'Restricted'. The NSE's Compliance Status Indicator (CSI) codes is the first criteria for screening out such stocks. Any stock with the CSI code in red font below is classified as restricted;

S/N	CSI CODES	CODE NAME	CODE DESCRIPTION
1	BLS	Below Listing Standard	Comprises all deficiencies regarding Continuing Listing Standards.
2*	MRF	Missed Regulatory Filing	Issuer Missed Regulatory Filing Deadline

3	DWL	Delisting Watch-list	These are companies that have been served with a delisting notice but the delisting process has been put on hold because they have received a stay of action from The Exchange for a defined period during which they undertake to cure the issues that led to the issuance of the delisting notice. If they fail to cure the issue within the defined period or any extension thereof, the hold on the delisting process will be lifted.
4	DIP	Delisting in Progress	These are companies that are in the delisting process, mandatory or voluntary. The delisting process commences with a notice of intention to delist from The Exchange to an issuer (mandatory) or to The Exchange from an issuer (voluntary).
5	AWR	Awaiting Regulatory Approval	These are companies that are awaiting the approval or no objection of their primary or another government regulator before releasing their audited financial statements
6	RST	Restructuring.	These are companies that are in the process of restructuring.
7	BMF	Below Listing Standard and Missed Regulatory Filing	Missed Regulatory Filing and Below Listing Standard
8	BAA	Below Listing Standard and Awaiting Regulatory Approval	Below Listing Standard and Awaiting Regulatory Approval
9	BRS	Below Listing Standard and Restructuring	Below Listing Standard and Restructuring
10	MRS	Missed Regulatory Filing and Restructuring	Missed Regulatory Filing and Restructuring
11	BMR	Below Listing Standard, Missed Regulatory Filing and Restructuring	Below Listing Standard, Missed Regulatory Filing and Restructuring

Note on *: We modify the MRF to any company that misses regulatory filing for more than a financial year.

In addition to the above criteria, any company in which its External Auditors have expressed concern about its going concern status will also be included in the restricted stock category. We adopt the code **TGC i.e. Threat to Going Concern.**

Companies with grave corporate governance issues that have become popular for such in the capital market will also be restricted. We adopt the code **PCG i.e. Poor Corporate Governance.** Finally, the index provider also retains the discretion to classify as restricted any other stock that might not fall in any of these categories but have strong reasons for such inclusion, but will ensure the decision is communicated appropriately. Such discretion will, however, only be used in very limited cases due to the rigor of the criteria.

2.5. INDEX WEIGHTING SCHEME

The float-adjusted market capitalization weighting scheme is used in the construction of the indices. This methodology provides an objective way of reflecting the relative importance of each constituent stock in the index, and also requires lesser rebalancing transactions. In order to limit the dominance of certain stocks, especially the large capitalization stocks, and also aid diversification of the index, we introduced capping factors that limit the weight of any stock in

either index. The capped weight is pegged at 25% for both indices. Any stock with an initial weight, in excess of 25%, will have the excess weight redistributed to only stocks with weights below 25%. The process goes through rounds of iteration to get the final weights used for the capping factors

$$Capping\ Factor\ = \frac{Final\ Adjusted\ Weights}{Initial\ Uncapped\ Weight}$$

The market capitalization used for the index is as shown below:

Value Market Capitalization

$$= \sum_{k=1}^{n}(Share\ Price_k * Shares\ Outstanding_k * Float_k * Capping\ Factor_k)$$

where n is the number of stocks in the value index

Growth Market Capitalization

$$= \sum_{i=1}^{n}(Share\ Price_i * Shares\ Outstanding_i * Float_i * Capping\ Factor_i)$$

where n is the number of stocks in the growth index

The Indices are computed with base values of 1,000 and the respective initial divisors are the market capitalizations divided by the base values at inception. The NSE-Meristem Value index is constructed as a price return index, while the NSE-Meristem Growth index is constructed as total return index.

3.   MAINTAINING THE NSE-MERISTEM INDEX

The NSE-Meristem Indices are reviewed semi-annually, in line with the rebalancing schedule for the NSE's suite of indices.

3.1.   INDEX REVIEW FREQUENCY

The NSE-Meristem Style indices are reviewed semi-annually in the last week of December and June, with the revised indices effective on the first working day of the following month.

3.1.1.   UPDATING THE ELIGIBILITY UNIVERSE

The eligibility universe is updated in line with the NSE Index committee's review calendar to reflect new listings and delistings. However, newly listed stocks will only be eligible upon meeting the liquidity screen on their third-year listing anniversary.

3.1.2. UPDATING THE INVESTIBILITY UNIVERSE

Stocks that had hitherto not traded for 3 years are considered at each review date to determine if they meet the liquidity criteria. In addition, stocks within the eligible universe that have shown increased trading liquidity and qualify as investible will also be included in the investability universe. The liquidity criterion still holds; the total number of days the stock has traded in a selected number of years relative to the market trading days. At a minimum, eligible stocks must have traded for at least 95% of the trading days of the market in each half-year period for the previous 3 years up to the point of each review, that is, for December review period, 3 full calendar years, and for June review period, 3 trailing years to June.

3.2. INDEX VALUE CALCULATION

The index is calculated as the ratio of the capped market capitalization and the divisor.

$$Value\ Index\ Value = \frac{Adjusted\ Value\ Market\ Capitalization}{Value\ Divisor}$$

$$Growth\ Index\ Value = \frac{Adjusted\ Growth\ Market\ Capitalization}{Growth\ Divisor}$$

3.2.1. INDEX DIVISOR METHODOLOGY

The index is maintained by adjusting the divisor for relevant market changes. The divisor is appropriately adjusted for corporate actions.

The opening index on the first business day after rebalancing is adjusted to offset the impact of the rebalancing. This is done by adjusting the divisor as below:

$$Adjusted\ Divisor = \frac{Market\ Capitalization\ after\ rebalancing}{Index\ level\ before\ rebalancing}$$

3.3. ONGOING EVENT RELATED CHANGES

Index constituents will be removed from the NSE-Meristem Value Index as soon as practicable, in the event that they:

- are delisted from the daily official list of the Nigerian Stock Exchange;
- file for bankruptcy;

- file for protection from their creditors;

- are suspended (definitely or indefinitely) from trading on the floor of the NSE with an improbable chance of returning to normal business activity and trading in the near future; and/or

- fail to meet the Nigerian Stock Exchange listing requirements.

4.   NOTICE AND DISCLAIMER

This document and information provided herein is for information purposes only. Effort is made to ensure that the information provided is accurate, however no liability or responsibility will be accepted by the Nigerian Stock Exchange or its Index partners, their respective directors/council members, officers, employees, partners or licensors for any errors or loss that may arise from using this publication or data stated herein.

The indices are maintained daily and the values of the Indices are derived from sources deemed reliable, but The Nigerian Stock Exchange nor its Index partners, their Affiliates and their respective suppliers do not guarantee the correctness or completeness of the values or other information furnished in connection with the Indices.

The Nigerian Stock Exchange and its Index partners and their Affiliates make no warranty, express or implied, as to results to be obtained any person or entity from the use of the Indices or any data or values included therein or in connection therewith or with the suitability of the objective of the index to any particular purpose.

Information containing historical data or analysis is not an indication or guarantee of any future performance, analysis or forecast. Past performance does not guarantee future results.

5.   FURTHER INFORMATION

For additional details please visit the Nigerian Stock Exchange website or send an email to contactservices@nse.com.ng or write to the Exchange for the attention of the Index Governance Committee/ Secondary Markets Department.