



EQUITY INDEX FUTURES PRODUCT REPORT

2023

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1. INTRODUCTION

The Nairobi Securities Exchange (NSE) launched the derivatives market in July 2019 after being granted a license by the Capital Markets Authority in May 2019. The NSE also incorporated a Clearing House, NSE Clear and signed up Clearing Members and Trading Members.

One of the products that the NSE initially rolled out is the Equity Index Futures contracts based on the NSE 25 Index with tenors of quarterly contracts (3 months, 6 months, 9 months and/or 12 months). This was subsequently followed by the introduction of the Mini NSE 25 Index futures contract in 2021.

All the contracts are cash settled at expiry or at close out.

2. EQUITY INDEX

An equity market index is a measurement of the value of a section of the equity market. It is computed from the prices of selected stocks (typically a weighted average). It is a tool used by investors and financial managers to describe the market, and to compare the return on specific investments.

The NSE currently has four equity indices; the NSE 10 Index, NSE 25 Index, the NSE 20 Share Index, the NSE All Share Index.

2.1 Equity Index Futures

Equity Index Futures are derivative instruments that give investors exposure to price movements on an underlying Index. Market participants can profit from the price movements of a basket of equities without trading the individual constituents. An index futures contract gives investors the ability to buy or sell an underlying listed financial instrument at a fixed price on a future date. These products are cash settled and easily accessible via NSE Derivatives members.

2.2 Background of the NSE 10 Index

The NSE 10 index came into effect on 30th August 2023, as a new tradable index. This was informed by the need to have a reference benchmark that more accurately represents the most actively traded counters in the market that allows investors to hedge their portfolios.

The NSE 10 is designed to represent the performance of the market based on a sample of ten (10) liquid stocks. The Index will assist portfolio managers and retail investors with available for sale positions to track the performance of their portfolios and rebalance as the market dynamics change from time to time. A major objective is to be a key barometer for active investors. The index can also be tracked and expected that potential promoters (issuers) may use it to structure such products in our market.

2.3 Why the NSE 10 Index?

The NSE 10 index was developed to meet the demand from the industry for a security that more accurately represented the portfolios of both retail and institutional investors.

The NSE 10 is calculated using the base-weighted aggregate methodology also known as the market capitalization/value weighted methodology float adjusted, which means that the index level reflects the total market value of component stocks relative to a particular base period. The float is adjusted to reflect the portion of the Issued shares available in the CDSC system trading account.

The ground rules governing the NSE 10 Index can be accessed on the NSE website:

<https://www.nse.co.ke/wp-content/uploads/GroundRules-NSE-10v-Share-Index-002.pdf>

2.3.1 Criteria for Selection

For a stock to be eligible for inclusion in NSE 10 share index (N10) calculations, it must be listed under the Main Investments Market Segment (MIMS) or the Alternative Investment Market Segments (AIMS) of the Nairobi Securities Exchange. The company must meet the liquidity threshold as may be determined by the Exchange from time to time. The Liquidity measures to determine the eligibility shall be as follows; Market capitalisation (float adjusted) 40%, Turnover (30%) Volume (20%) Deals (10%). Top 10 companies having been screened under the said liquidity measures shall form the constituent companies for a six-month period after which a review will be undertaken.

2.3.2 Constituent Companies (September 2023)

Security	Free Float
ABSA Bank Kenya Plc Ord 0.50	5,085,425,799.00
The Co-operative Bank of Kenya Ltd Ord 1.00	5,472,686,357.00
Centum Investment Co Plc Ord 0.50	578,787,450.00
East African Breweries Plc Ord 2.00	749,391,878.00
Equity Group Holdings Plc Ord 0.50	3,755,675,882.00
KCB Group Plc Ord 1.00	2,312,504,728.00
KenGen Co. Plc Ord. 2.50	1,924,970,853.00
Kenya Re Insurance Corporation Ltd Ord 2.50	1,101,753,494.00
NCBA Group Plc Ord 5.00	1,416,352,325.00
Safaricom Plc Ord 0.05	9,976,433,820.00

2.4 Who uses the Equity Index Futures?

Equity Index Futures appeal to a wide audience – from the sophisticated institutional investors to a range of professional traders, asset managers and short-term equity traders. Buyers and sellers of equity index futures are normally either hedgers or speculators.

Hedgers seek to reduce risk by protecting an existing share portfolio against possible adverse price movements in the physical (or spot) market. Hedgers have a real interest in the underlying constituent shares of the index and use futures as a means of preserving their performance. Speculators use the equity index futures in the hope of making a profit on short-term movements in the futures contract price. They often buy and sell derivatives contracts in their own right without transacting in the underlying shares. Speculators may have no interest in the underlying shares other than taking a view on the future direction of their price.

3. PROPOSED MINI NSE 10 INDEX FUTURE PRODUCT SPECIFICATIONS

3.1 Product Design

3.1.1 Underlying

The various benchmark indices and any sectorial indices constructed that are permitted by the Product Advisory Committee. This will be represented by the recently introduced NSE 10 Index with the base date of 30th August, 2023.

3.1.2 Trading Hours

The trading hours for index futures would be between 9.30 a.m. and 3.00 p.m. This will align with the spot market trading hours. The Exchange will ensure that risk management systems and infrastructure are installed and adequate to support the trading hours.

3.1.3 Size of the Contract

The index futures contract size will be the price of the index at the specific time multiplied by a contract multiplier of Kshs.10 e.g. if the index is at a price of 1000 points, then the contract size would be $1000 \times 10 =$ KShs.10,000.

3.1.4 Minimum Price Fluctuations

The minimum price fluctuations for the equity index futures will be per 1 index point movement (Ksh.10).

3.1.5 Quotation

The index futures contract shall be quoted in Kenya shillings terms.

3.1.6 Tenor of the Contract

The index futures contract shall have monthly or quarterly expiries. Where quarterly, the expiries will be during the months of March, June, September and December.

3.1.7 Available Contracts

Apart from monthly contracts, there will be four contracts available for the months of March, June, September and December.

3.1.8 Price Limits

The price limits on the contracts will be +/-5% on the settlement price of the previous day after which there will be a circuit breaker after 15 mins, and +/- 10% on the settlement price of the previous day, after which trading will be halted for the day. This is also guided by the intra-day spot market movements on the individual counters which are limited to 10% intra-day moves on either side.

3.1.9 Settlement Mechanism

The index futures contract shall be settled in Kenya Shillings.

3.1.10 Settlement Price

The settlement price shall be the closing price of the underlying index on the day of expiry. This will take a two layered approach. For liquid contracts, the closing price of the underlying index shall be based on the volume

weighted average price (VWAP) of the constituents of the underlying index. For illiquid contracts, the settlement price shall be based on the spot price and adjusted for the cost of carry.

The calculation of the VWAP can be accessed through the index ground rules that are available on the Exchange website. <https://www.nse.co.ke/next-derivatives-education-resources.html>

The cost of carry will be arrived at by reducing the risk-free rate by the constituents' dividend yield and adjusting this figure by the time to maturity of the different contracts and this can be referenced from the Exchange website. <https://www.nse.co.ke/next-derivatives-education-resources.html>.

3.1.11 Expiry Time

The expiry time shall expressly be 15H00 on the contract's expiry date.

3.1.12 Final Settlement Day

The Exchange shall set the final settlement date as the third Thursday of every expiry month, and if the expiry date is a public holiday, then the previous business day will be used.

While doing so, the Exchange shall have to ensure that there is no change in the contract specifications, or the risk management framework and the integrity of the market is not affected in any manner.

4. RISK MANAGEMENT

In exchange traded derivative contracts, the Clearing House acts as a central counterparty to all trades and performs full novation. The risk to the Clearing House can only be taken care of through a stringent margining framework. Also, since derivatives are leveraged instruments, margins also act as a cost and discourage excessive speculation. A robust risk management system should therefore not only impose margins on the members of the Clearing House but also enforce collection of margins from the clients.

There are two types of margins: initial margin and variation margin.

4.1 Types of Margins

4.1.1 Initial Margin

When a position is opened (either long or short), the investor is called on to pay an initial margin. This is an estimate of the maximum amount that is likely to be lost in one day. This amount remains on deposit as long as

the investor has an open position. It attracts a market-related interest rate, which is refunded to the investor once the position is closed out, or the contract expires. The initial margin protects investors from counterparty credit risk (the risk associated with one of the initial parties defaulting).

The below table shows the proposed margins requirement for the mini NSE 10 index futures contract as compared to the current NSE 10 index futures contract:

Security	21-Dec-23	21-Mar-24	20-Jun-24	19-Sep-24
Mini NSE 10 Share Index (10MN)	600	600	700	800

The Initial Margin requirement shall be based on a worst-case loss of a portfolio of an individual client across various scenarios of price changes. The various scenarios of price changes will be computed so as to cover a 99.95% Value at Risk (VaR) with 750 historical data points and the margin will also be scaled up to cover a two-day liquidation period.

The full Initial Margin calculation methodology is available at:

<https://www.nse.co.ke/derivatives/operational-procedures/>

The initial margin shall be collected from the client by the clearing member on an online, real-time basis.

Types of collateral allowed as Initial Margin

As a start, only cash will be used as collateral for the initial margin. However, with the subsequent maturity and growth of the market and after consultation with the different market participants, other forms of collateral could be used as initial margin, such as bank guarantees, fixed deposits and securities acceptable to the NSE.

4.1.2 Variation Margin

This can be seen as your daily profit or loss. At the end of each trading day, contracts are Marked-to-Market (M-t-M). The exchange independently calculates a fair value (or closing price) for each contract. The difference between your traded price, if traded on the day, and that day's closing M-t-M will result in profit or loss. The following day when this position is brought forward, the difference between the current day's M-t-M and the previous day's M-t-M results in a profit or loss.

4.2 Mark-to-Market Settlement

The Exchange prescribes for the payment of the mark-to-market to be before midday of the next day to cover the potential losses. If the same is not done, then margin calls will be sent out to the clients. The Clearing House/clearing house has operational guidelines for collection of margin and standard guidelines for back-office accounting at the level of clearing member and trading member to facilitate the detection of non-compliance at each level.

4.3 Contracts are automatically closed out on expiry.

All contracts that have not been closed out or rolled over before expiry will go through the expiration process. All contracts held on expiry will be automatically closed out by the Exchange. The investor will receive a final variation margin flow which is calculated using the final settlement price of the contract. The exchange will charge trading fees for all contracts that expire.

4.4 How to close a trade position

Equity index futures contracts are closed out by entering into an equal but opposite transaction. For example, if an investor had entered into a long contract, the investor would close out the trade by selling the contract, i.e. by entering into a short contract. The exchange will charge trading fees for all contracts that are closed out.

4.5 How to roll over a position

All investors who wish to hold their positions beyond the expiry date will be required to roll their positions over into the next expiry date. In other words, assume an investor holding a December contract and wishing to roll their position into the March contract. The investors will need to close out their positions (as explained) & subsequently enter into the next contract expiry. In other words, if an investor was long a December contract, the investor would have to short the December contract and subsequently enter into a long March contract. The benefit to the investor is that the same exposure is maintained.

4.6 Periodic Risk Evaluation Report

The Clearing House of the Exchange shall on an ongoing basis and at least once in every six months, conduct back testing of the margins collected vis-à-vis the actual price changes. A copy of the study shall be submitted to the Board's Risk Management Committee and the Derivatives Oversight Committee along with suggestions on changes to the risk containment measures, if any.

5. SURVEILLANCE

5.1 Surveillance and Disclosures

5.1.1 Unique Client Code

The Exchange shall ensure that each client is assigned a client code which is unique across all members.

5.1.2 Position Limits

Position limits are the highest number of derivatives contracts an investor is allowed to hold on one underlying security. Exchanges establish different position limits for each contract based on trading volume and underlying share quantity.

Position limits act as an important surveillance measure designed to prevent large, concentrated positions which may affect market integrity in the Equity markets.

a) Market Level

There are no market wide position limits specified for index futures contracts.

b) Client Level

Any person or persons acting in concert who together own 15% or more of the open interest shall be required to report this fact to the exchange and failure to do so shall attract a penalty as laid down by the Exchange.

c) Trading Member

The trading member position limits in equity index futures contracts shall be the higher of 50% of the average daily turnover or 50% of the total open interest in the market in equity index futures contracts.

This limit would be applicable to open positions in all futures contracts on a particular underlying index.

5.1.3 Surveillance System

The surveillance systems of the Exchange have been designed with a view on all the relevant aspects including the following -

- a) The alerts in the online surveillance system are designed to indicate material aberrations from normal activity. These are automatically generated and thrown up by the system.
- b) The parameters which need to be monitored either through the online system or otherwise should inter-alia include the following parameters as suggested by the Risk Management Committee on Derivatives:

- i) Monitoring of open interest, cost of carry/impact cost and volatility;
 - ii) Monitoring of closing prices;
 - iii) The open positions in the derivative market should be seen in conjunction with the open positions in the cash market. i.e. the position deltas should be monitored; and
 - iv) The timing of disclosure by corporates should be monitored as this could influence the prices of the contract at the time of introduction and expiry.
- c) The surveillance systems and processes will:
- i) Capture and process client level details;
 - ii) Develop databases of trading activity by brokers as well as clients;
 - iii) Generate trading pattern in individual products or group of products by a broker over a period of time or by a client / group of clients over a period of time;
 - iv) Generate the pattern of trading in a product over a period of time giving such details as the purchases/sales/positions/open interest held by different brokers or clients/group of clients;
 - v) Monitor proportion of trading in derivatives market vis-à-vis trading in the underlying in the cash market and aberrations as compared to historical data and as compared to market average; and
 - vi) Monitor large trades.
- d) For integration of surveillance in cash and derivatives markets, the persons who carry out monitoring/analysis in the derivatives market will have access to data of the underlying security in cash market and vice versa. The co-ordination between surveillance and derivatives segment will ensure monitoring of positions at broker/client level across cash and derivatives market with a view to identifying possible fraudulent or manipulative activity.
- e) Examination of derivatives trading details will be taken up on the basis of cash market surveillance also, and vice versa.
- f) While the surveillance system may be able to generate a large amount of information, it is only the first step towards analyzing market behavior to identify potential problems. The exchange surveillance staff will carry out quick and effective analysis of information generated by the surveillance system and will document this analysis. The documentation will be properly authenticated and verified by a designated authority at the Exchange.
- g) The information and feedback received from broker inspections is vital input for effective surveillance. For this it is necessary that broker inspections are taken up in a rational manner keeping in view the level of trading activity, client profile, number and nature of complaints received against the broker, history of risk

management related defaults and regulatory violations etc. Information obtained through broker inspections will be made available to the monitoring/surveillance departments of the Exchange.

h) The information gathered by the risk management department while enforcing the risk management measures and settlement processes are critical inputs. Such information could include patterns of defaults related to specific contracts and special risk management measures taken keeping in view the market conditions.

i) The Exchange will call for information from brokers in a standard form, and preferably in electronic form, to facilitate faster analysis as well as building up of databases. It may also ensure that duly authenticated information is submitted by the broker or his designated agent.

j) While implementing a stock watch type of system for derivatives, the system will be designed to provide online access to relevant historical data on derivatives trading for at least a year.

6. ADDENDUM

Nairobi Derivatives Exchange	
Category of Contract	Index future
Underlying financial instrument	The NSE 10 Share Index
System Code	Dec23 10MN
Contract months	Can be monthly contracts or quarterly contracts (March, June, September and December).
Expiry dates	The third Thursday of every expiry month. (If the expiry date is a public holiday, then the previous business day will be used.)
Expiry times	At 15H00 Kenyan time.
Listing program	Near middle and far contracts. Special contracts can be listed on demand.
Valuation method on expiry	This shall be based on the volume weighted average price of the constituents of the index for liquid contracts or the theoretical price for illiquid contracts (spot + cost of carry)
Settlement methodology	Cash settled in Kenyan Shillings.
Contract size	One index point equals Ten Kenyan Shillings. (KES 10.00)

Nairobi Derivatives Exchange															
Minimum price movement (Quote spread)	In Kenyan Shilling per 1 Index point. (KES 10.00)														
Initial Margin requirements	As determined by the NSE Initial Margin Methodology.														
Mark-to-market	Explicit daily. Determined from the weighted average price of the underlying constituents of the index for the liquid contracts or the theoretical price for the illiquid contracts (spot price + cost of carry).														
Market trading times	As determined by the NSE (09H00 to 15H00) local Kenyan time														
Exchange fees	<table border="1"> <thead> <tr> <th>Participant</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>NSE Clear</td> <td>0.02%</td> </tr> <tr> <td>Clearing Member</td> <td>0.02%</td> </tr> <tr> <td>Trading Member</td> <td>0.08%</td> </tr> <tr> <td>IPF Levy</td> <td>0.01%</td> </tr> <tr> <td>CMA Fee</td> <td>0.01%</td> </tr> <tr> <td>TOTAL</td> <td>0.14%</td> </tr> </tbody> </table> <p>The percentages indicated above will be used to calculate the fees based on the notional contract value.</p>	Participant	Percentage	NSE Clear	0.02%	Clearing Member	0.02%	Trading Member	0.08%	IPF Levy	0.01%	CMA Fee	0.01%	TOTAL	0.14%
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* Please note that IM is a moving target based on the volatility of the underlying.