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Analysts:

Derivatives 101

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Renaldo D'Souza

+254 (20) 2222651

Renaldo.DSouza@sterlingib.com

Susan Makena

+254 (20) 2222651

Susan.Makena@sterlingib.com

Elizabeth Njenga

+254 (20) 2222651

Elizabeth.Njenga@sterlingib.com

“Derivatives Transaction Process”

Justina Vuku

+254 (20) 2222651

Justina.Vuku@sterlingib.com

For queries call: +254 (20) 315414; 2244077 or

Email: research@sterlingib.com

Website www.sterlingib.com

Bloomberg Code: SCLK <GO>



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Executive Summary

- The first issue of our **Derivatives 101** report gave a brief overview of the latest introduction to the Nairobi Securities Exchange (NSE), **derivatives**.
- In our second issue we seek to demystify the trading process of the derivatives futures.
- We also discuss, the trading members (investment banks') role and the structure of the market.
- Finally, we delve in to the trading settlement and mark to market process and wrap up with an example of a Safaricom futures trade.

NSE Derivatives

- The NSE derivatives market offers **futures contracts** on Safaricom, KCB, Equity, EABL, BAT and NSE 25.
- The derivatives market will enable investors to better diversify their portfolios, manage risk associated with price movements of the securities and deploy capital more efficiently.
- All futures contracts listed on NEXT will have **quarterly expiry dates** on the 3rd Thursday of March, June, September and December of every year. Experts have advised that in the case of a rollover one needs to start closing out positions the month before the expiry month due to liquidity issues that might arise.
- Other futures will be introduced later to include more single stocks, currencies and commodities.

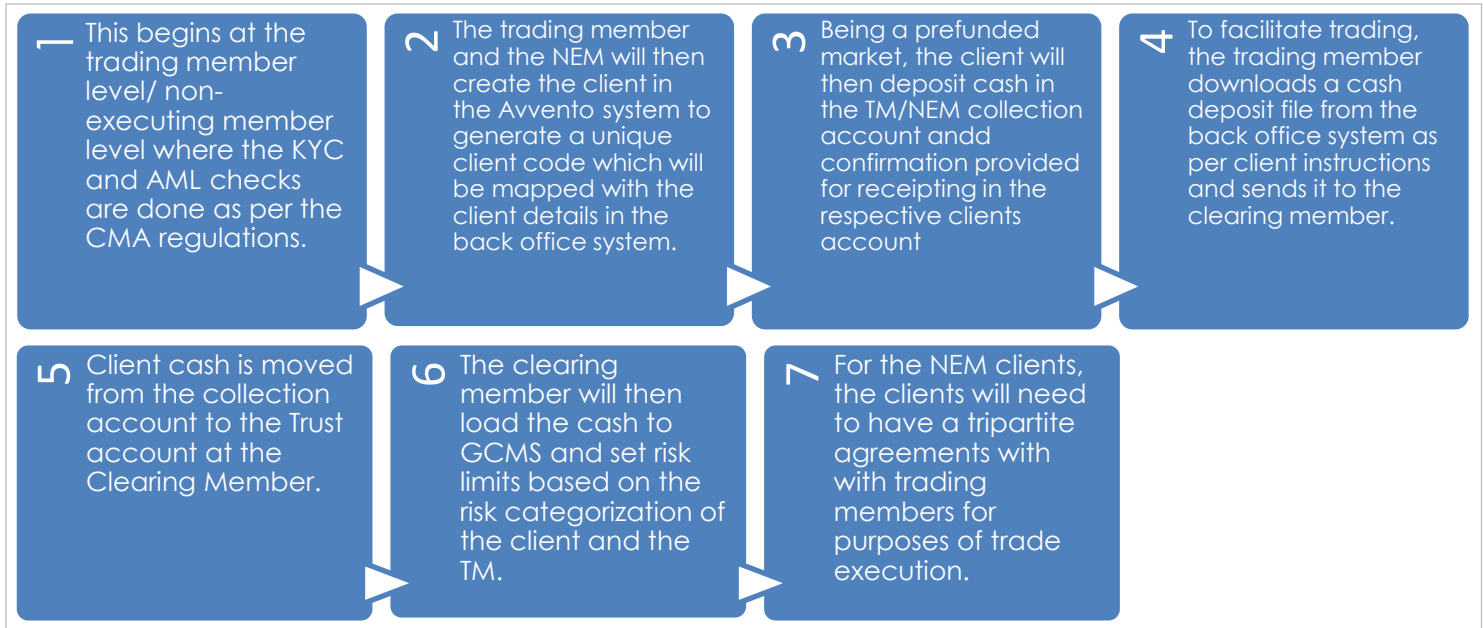
NEXT Market Structure

- The derivatives market is similar to any other financial market and has following categories of participants:
 - **NSE Clear:** This will be the market's clearinghouse with the key responsibility of ensuring all contracts are settled where NSE Clear acts as the buyer to all sellers and the seller to all buyers.
 - **Clearing Members (CM):** Co-op Bank and Stanbic have been appointed as clearing members to assist NSE Clear.
 - **Trading Members (TM):** Include stock-brokers and investments banks.
 - **Clients/Investors:** Individuals and institutions trading in the derivatives market.
 - **Non Executing Members (NEM):** They are responsible for onboarding clients and acceptance of trades executed on behalf of custodial clients in order to facilitate settlement.
- The main systems used in NEXT are Avento; BBO and GCMS
- The Exchange; Provides trading Platform for trading of derivatives instruments

Trading Members' Roles

- The following are the trading members' roles:
 - 1) Open and manage NEXT clients' accounts
 - 2) Undertake the crucial role of KYC
 - 3) NEXT accounts will be mapped to the spot mkt account. Therefore one does not need to open another CDS account.
 - 4) Ensure execution of client agreement
 - 5) Take the clients through the Risk Disclosures and the requisite obligations
 - 6) Ensure segregation between own funds and client funds.
 - 7) Ensure daily settlement for all open positions
 - 8) Undertake daily reconciliations for TM's account with NSE Clear, TM's account with the CM and the Clients accounts.

Trading Process



Source: Sterling Capital Research

*KYC – Know your client , AML– Anti-money laundering, NEM– Non-executive member, TM– Trading Member, GCMS – Global clearing management system

NEXT Trading Settlement:

- 1) NEXT is a pre-funded market where clients pay up an **Initial Margin**, for the contracts taken. The initial margin is determined by NSE per contract, please see the table below
- 2) All open positions will be **Marked-to-Market** at the end of each trading day and any outstanding obligations settled daily. The contracts will be **cash settled** in Kenyan shillings on a daily basis therefore there will be no physical delivery of the underlying asset.
- 3) Clients may be required to place other margins such as **House Margin** and **Variation Margin** (Amount that is due to or from a Client as a result of daily mark-to-market)
- 4) These margins are precautionary to ensure smooth settlement process since all positions have to be settled daily.
- 5) Futures contracts traded in NEXT will have quarterly expiry dates i.e. 3rd Thursday of the month of quarter end (March, June, Sept and Dec).

Security	Initial Margin Requirements - KES			
	Contract Expiry Date			
	19 Sep 19	19 Dec 19	19 Mar 20	18 Jun 20
British American Tobacco Kenya Plc (BATK)	7,401	7,486	7,570	7,655
KCB Group Plc (KCBG)	5,544	5,903	6,263	6,622
Equity Group Holdings Plc (EQTY)	5,599	5,957	6,316	6,675
Safaricom Plc (SCOM)	2,934	3,251	3,567	3,884
East African Breweries Ltd (EABL)	2,844	2,981	3,118	3,255
NSE 25 Share Index (N25I)	26,241	28,243	30,245	32,247

Source: NSE

What is Mark to Market?

- 1) Refers to accounting for the fair value of an asset or liability based on the current market price.
- 2) All futures contracts are marked to market based on the daily settlement price of the futures contracts at the end of each trading day.
- 3) $F=(S-PVD)*(1+R)^n$ (F-Future price of the contract, S- spot price of the contract, R- three month interest rate, n – Time to expiration of contract/365).
- 4) NSE has introduced fidelity funds as buffers for potential **settlement risk** and investor loss they include: **Settlement Guarantee Fund (SGF)** and **Investor Protection Fund (ICF)**.
- 5) These are funded through seed capital by NSE and via levies from market trades. The levies are included in the **0.17%** and **0.14%** for the single stock and index futures respectively lower than the spot rate of 2.1%. Payment is done at initiation of the contract.

Safaricom Futures Trade Cash Flow

- 1) **NSE 25** – One index point is KES.100, **minimum price movement** is one index point (KES.100)
- 2) **Stocks** - For shares trading below KES.100 (KCB, Equity, and Safaricom): One contract equals 1,000 underlying shares. For shares trading above KES.100 (EABL, BAT): One contract equals 100 underlying shares. **Minimum price movement** for stocks are: stocks below KES.100 is 0.01, stocks trading between KES.100 and KES.500 is 0.05 and stocks greater than KES.500 is 0.25.

Contract - SCOM19SEPT19 – 1000 shares per contract.

Date	Size	Stock Price	Exposure	IM	AM	T.Fees	Total Cost	MTM	P&I Calculation	Net cashflow	Net Gain
22-Jul-19	3	28.25	84,750	(8802)	(4401)	(144.08)	(13,347.08)	0	-	(13,347.08)	
23-Jul-19	3	28.50	85,500					0.25	750	750	
24-Jul-19	3	28.00	84,000					(0.5)	(1,500)	(1,500)	
25-Jul-19	3	27.50	82,500					(0.5)	(1,500)	(1,500)	
26-Jul-19	3	29.50	88,500	8,802	4,401	(150.45)	13,052.55	2.0	6,000	19,052.55	5,705.48

Source: Sterling Capital Research

Key:

Description	Explanation
Underlying Security	Safaricom
SCOM19SEPT19	A futures contract on Safaricom shares that expires in September 2019.
Size	Number of contracts that the client has bought i.e. 3 contracts of 1000 shares per contract
Stock Price	Safaricom share price at the end of the trading day
Exposure	Size*shares per contract*stock price e.g. (3*1000*28.25= 84,750)
Initial Margin (IM)	Paid to the clearing house (NEXT) – Determine by NSE per contract
Additional Margin (AM)	Paid to the clearing member (Stanbic or Cooperative Bank) -Set at a percentage of Initial Margin by Clearing Member according to risk assessment . e.g. (50% * 8,802=4401)

Trading Fees	0.17% * value of trade (0.17% *84,750=144.08)
Total	IM + AM + T.Fees
MTM	Price of underlying stock, Yesterday(T-1) - (Today) T
P&L Calculation	MTM* Size* Shares per contract(1000) (0.25*3*1000=750)
Net cashflow	Total cost + P&L Calculation
Net Gain	Net Cashflow at end of contract – Net Cashflow at beginning of contract.

Source: Sterling Capital Research

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