



## **INVESTING IN THE DERIVATIVES MARKET IN KENYA**

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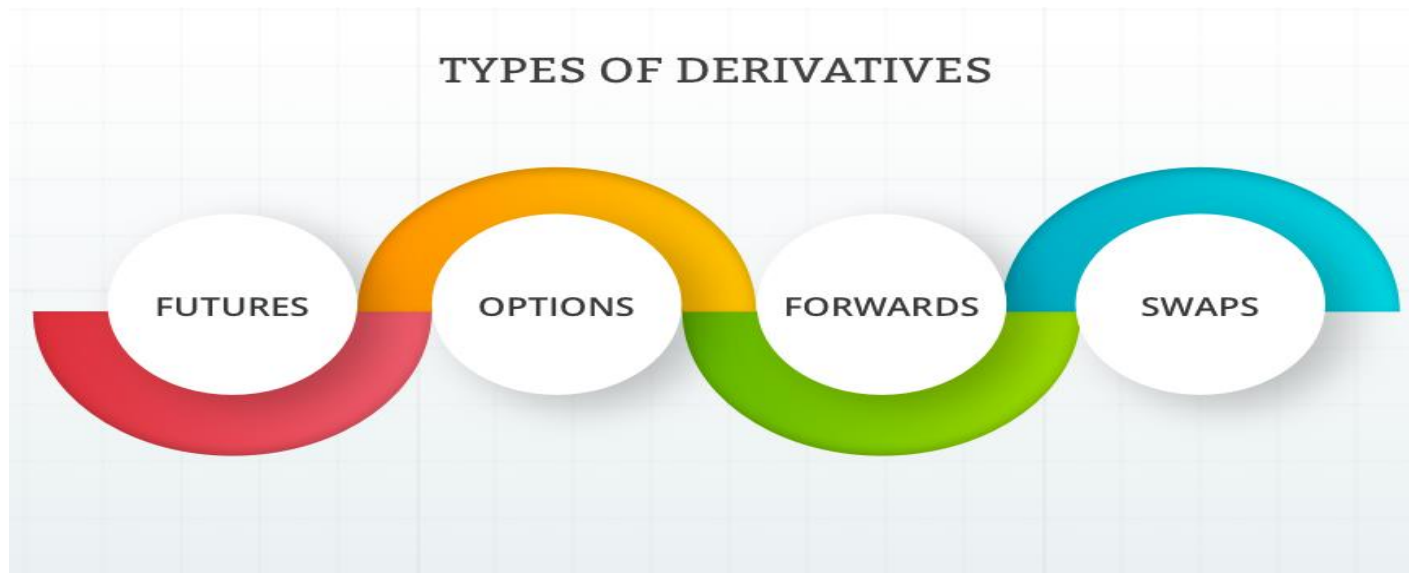
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# DERIVATIVES

## Description

A derivative is a **financial contract that derives its value from the performance of an underlying asset**. The most common underlying assets for derivatives are usually stocks, a market index, bonds, commodities etc. We have 4 major types of Derivatives that is **(Futures, Options, Swaps & Forwards)**, however we only have **Futures** in our local derivatives market.





Why should you consider investing in Derivatives?

➤ **Derivatives give you more options (more trading strategies)** e.g., you have the option to go long or even short which means you can make a profit both when the share prices are going up or even going down.

Going long – basically means that an investor expects the price of a stock to go up hence choose to buy.

Going short, or short selling, is a way to profit when a stock falls in price.

This means that unlike investing in the spot market where you only make money when the share prices go up, the derivatives market gives you an opportunity to make a profit when the share prices are declining. This is achieved through “short-selling” futures contracts of stocks whose share price you expect to decline in the near future.

➤ **Derivatives allow you to hedge your portfolio to minimize losses.** If an investor is concerned about a possible market decline but does not wish to sell their stocks just yet, Instead, of selling off stocks in the portfolio, the investor can hedge the portfolio by shorting the futures contracts that resemble the stock portfolio or the equivalent index futures contract. By doing this, losses on the stock portfolio are offset by gains in the futures market.

➤ **Lower trading fees.** Fees in our local derivatives market are **0.17%** and **0.14%** compared to **1% - 2%** when buying shares in the stock market.

- **Trading on margin.** Margin trading allows you to use leverage to boost your purchasing power and make larger investments than you could with your own funds. In the spot market, you can only buy shares if you have enough money to pay the entire purchase price. When you buy on margin, you can get a larger investment exposure than if you were limited to using your own funds because you just need to pay a small margin amount upfront. This allows investors to gain significantly more than they put in. Margin is majorly used to gain and generate high leverage that has the ability to increase both profit and losses.
- **Settlement time in our local derivatives market is T +1** unlike in the spot market where settlement time is T +3. Settlement time basically means the time it takes for the trader's account to be debited or credited depending on whether there is a profit or loss, after the day when the trade has been executed. T + 1 means settlement is completed 1 day after the trading day, while T +3 means settlement is completed 3 days after the trading day.

## Disadvantages

- **Trading on Margin is a double-edged sword** because it can also magnify losses and increases risk. This is the flip side of the magnified profits noted above. If the value of futures bought on margin declines rapidly, you might lose a significant amount.
- **Derivatives are quite complex** compared to other asset classes hence investors need to take more time to understand the product.

## Let's now get to learn more about the futures market:

At the moment we only have Futures in our local derivatives market (NSE NEXT). I want to define a few concepts related to this market. I will start by defining what a futures contract is, the expiry of futures contracts, the concept of margin, long and short positions and how they determine profit or loss. I will also use a sample client statement to illustrate all the concepts I have mentioned. Finally, I will show you how you can use derivatives/ futures contracts to minimize losses on your stock portfolio in a scenario where the prices of these stocks are falling and you don't want to sell your shares and incur the losses (**HEDGING YOUR STOCK PORTFOLIO**). Basically, I will answer the question of, "is there a strategy investors can use to reduce their losses when the stock market is declining if they had already bought some shares?"

## What is a Futures Contract?

A futures contract is a contractual agreement to buy or sell a particular asset, at a predetermined price at a specified time in the future. This will become clearer as we look at the other related concepts.

Currently, we have futures for 10 key NSE listed companies/ stocks known as **SINGLE STOCK FUTURES** namely: **SAFARICOM, EQUITY, KCB, NCBA, ABSA, COOP BANK, BAT, EABL, STANCHART AND I&M.**

## Expiry of Futures Contracts

These contracts expire after every 3 months (March, June, September and December). On the 3rd Thursday of the expiry month, all open contracts are closed out and settled at the current spot prices of the underlying stocks (basically the price on the stock market).

## Naming of Futures Contracts

► Securities	
	Security
	21 DEC23 SCOM
	21 MAR24 SCOM
	20 JUN24 SCOM
	19 SEP24 SCOM

As you can see, the futures contracts are named using the **expiry date** and the **underlying stock**.

From a layman's perspective, if you entered into any of these contracts today (October 2023), you are trying to speculate on where the price of the underlying stock (SCOM) will be on the expiry dates (21st DEC 2023, 21st MAR 2024 etc.).

# The concept of Margin

One contract represents **1,000 underlying shares** for stocks trading **below KES 100** like **SCOM** and **KCB**.

One contract represents **100 underlying shares** for stocks trading **above KES 100** like **EABL** and **BAT**.

This means that, for Safaricom which is currently trading at KES 14, the total value of 1 contract will be  $14 \text{ (price)} * 1 \text{ (no. of contracts)} * 1000 = \text{KES } 14,000$ .

On the other hand, EABL which is currently trading at KES 130, the total value of 1 contract will be  $130 \text{ (price)} * 1 \text{ (no. of contracts)} * 100 = \text{KES } 13,000$ .

This is where the concept of margin comes in. Unlike in the spot market where you would need the entire KES 14000 to buy the 1000 shares of Safaricom, in this case you only need to have a small amount called margin to pick up one 21 DEC 2023 SCOM futures contract valued at 14000.

## How is this margin calculated?

Please note that you will not be required to calculate this because the trading system calculates for you and shows how many contracts you can take with the amount you have in your account. But it's still important to understand how the calculation is done.

### How much is needed to take up one contract?

You need the **Margin amount (which is divided into two that is Initial and Additional Margin) + Trading Fees (0.17% of the value of the contract e.g., 0.17% of 14,000 for the Safaricom contract).**

**Initial Margin (IM)** amount is set by the **NSE NEXT** for each underlying company while **Additional Margin (AM)** is usually **10% of the Initial Margin.**



Currently, these are the Initial Margins:

Initial Margin Requirements – KES				
Company	Contract Expiry Date			
	21-Sep-23	21-Dec-23	21-Mar-24	20-Jun-24
Safaricom Plc (SCOM)	2,100	2,300	2,500	2,700
KCB Group Plc (KCBG)	4,600	4,800	5,100	5,300
Equity Group Holdings Plc (EQTY)	5,200	5,500	5,900	6,300
ABSA Bank Kenya Plc (ABSA)	1,500	1,600	1,700	1,800
East African Breweries Ltd (EABL)	3,600	3,800	3,900	4,000
British American Tobacco Kenya Plc (BATK)	5,900	6,200	6,400	6,600
NSE 25 Share Index (N25I)	18,200	20,000	21,800	23,600
Mini NSE 25 Share Index (25MN)	1,800	2,000	2,100	2,300
NCBA Group Plc (NCBA)	5,100	5,500	5,900	6,300
The Co-operative Bank of Kenya Ltd (COOP)	1,500	1,600	1,700	1,800
Standard Chartered Bank Kenya Ltd (SCBK)	2,100	2,200	2,300	2,400
I&M Group Plc (IMHP)	3,600	3,800	3,900	4,000

From the margin requirements' table above, the **Initial margin** for 1 contract of 21st DEC 2023 Safaricom is **KES 2,300** hence the **Additional Margin** will be **10% of 2300 which is 230**. This means that the total amount you need to take up one contract of the 21st DEC SCOM contract is **2300 (IM) + 230 (AM) + 23.8 (0.17% of 14000 the contract value as the trading fees)**.

Basically, you need **KES 2553.8** to enter one contract 21st DEC SCOM contract valued at **KES 14,000**. This is what we call trading on margin.

### How is Profit and Loss Calculated?

There are **two positions** you can take in **the futures market**. You can either **Go Long (buy)** or **Short (sell)**.

Taking a **long position (buying)** means you will make a **profit** if the **price** of Safaricom in this case **goes up** (above 14) and you will make a **loss** if the **price** goes **down** (below 14).

Taking a **short position (selling)** means you will make a **profit** if the **price** of Safaricom in this case goes **down** (below 14) and you will make a **loss** if **price** goes **up** (above 14).

<b>i</b> 21 DEC23 SCOM	<b>B</b>	13.95	5		14.35	1	<b>S</b>
<b>i</b> 21 MAR24 SCOM	<b>B</b>	0.00	0		0.00	0	<b>S</b>
<b>i</b> 20 JUN24 SCOM	<b>B</b>	0.00	0		0.00	0	<b>S</b>

Clicking on **B (Buy)** means you want to **go long** on the contract while clicking on **S (Sell)** means you want to **go short** on the contract. The **numbers below the prices** represent the **number of contracts available** at that **specific price on both ends at the moment**. If you want to **buy**, the **seller** offering the **best price** is selling at **14.35** and has **1 contract** placed on board for sale. On the other hand, if you want to **sell**, the best available **buyer** is looking to buy at a price of **13.95** and the number of contracts available at that price are **5**. To trade instantly, you can take up contracts at the prices available on board, but if you feel the prices are not the best for you, you can add your order on board with your best price and specify the amount of contracts you want to take up. Once a willing buyer or seller comes on board at the price you put, then the trade is executed.

**Please Note:** For you to **exit the contracts/ close out your open positions**, you have to take the **“opposite position”** i.e., **sell if you are in a long position** and **buy if you are in a short position**.

Having understood this, let's now look at two scenarios and how each investor will be affected i.e., the profit/loss they will make.

Safaricom is currently trading at **KES 14 today (October 2023)**, and two investors take up the 21st DEC 23 SCOM contract, where **one goes long another goes short**. On the **21st of DEC 2023** the contract expires and both positions are closed out .....

**(Scenario 1) If the price of SCOM had gone up from 14 to 20:**

**Investor who took a long position**

$(20-14) \text{ price movement} * 1 \text{ contract} * 1000 \text{ (number of shares)} = \text{KES } 6000 \text{ (PROFIT)}$

**Investor who took a short position**

$(14-20) \text{ price movement} * 1 \text{ contract} * 1000 \text{ (number of shares)} = \text{KES } - 6000 \text{ (LOSS)}$

**(Scenario 2) If the price of SCOM had fallen from 14 to 10:**

**Investor who took a long position**

$(10-14) \text{ price movement} * 1 \text{ contract} * 1000 \text{ (number of shares)} = \text{KES } - 4000 \text{ (LOSS)}$

**Investor who took a short position**

$(14-10) \text{ price movement} * 1 \text{ contract} * 1000 \text{ (number of shares)} = \text{KES } 4000 \text{ (PROFIT)}$

*That's how you determine profit or loss in the futures market.*

**Please Note:** Profit and Loss is calculated on a **daily** basis (based on Today's closing price – previous day closing price) and credited or debited from the investor's margin account cumulatively until the investor exits the contract or until the expiry date, if the investor decides to hold the contract until expiry. This **daily profit & Loss** is called **Mark to Market Margin** commonly abbreviated at **MTM**.

Basically, on a day when SCOM closes **higher than the previous day** those holding **long positions** make a **profit** while those holding **short positions** make a **loss** and **vice versa**.

**Let's now look at a sample client statement of an investor who took up 3 (21<sup>st</sup> SEPT 2023) contracts on the 27<sup>th</sup> of June 2023 and held them till the expiry date.**



Date	Type	Reference	Cheque / Deposit No.	Particulars	Qty	Price
				Opening Balance As On 26-06-2023		
27-Jun-2023	Purchase	P90349		21 SEP 23 SCOM	1	18.00
27-Jun-2023	Sale	S90350		21 SEP 23 KCBG	1	29.00
27-Jun-2023	Sale	S90353		21 SEP 23 KCBG	1	29.00

As you can see, he went **long on one contract of 21 SEP 23 SCOM** at **KES 18** and went **short on two contracts of 21 SEP 23 KCBG** at **KES 29**. This means that he **expected the price of SCOM to go above KES 18 by the 21st of September while KCB's share price to be below KES 29 by the 21st of September.**

On the **21st of September 2023** the contracts **expired** and all the positions were **automatically closed out**. The price of **Safaricom** was at **KES 14.95** while **KCB's** price was at **KES 22.30**. This means he made a **loss on SCOM** and a **profit on KCB**. Let's have a look:

The image below shows how his contracts/ open positions were closed out (by taking the “opposite positions” to the ones he held).

Derivatives

Date	Type	Reference	Cheque / Deposit No.	Particulars	Qty	Price
				Opening Balance As On 20-09-2023		
21-Sep-2023	Sale	S136270		21 SEP 23 SCOM	1	14.95
21-Sep-2023	Purchase	P136269		21 SEP 23 KCBG	2	22.30

Let's now see how his Profit/ loss was calculated:

Derivatives Margin

Date	Type	Reference	Cheque / Deposit No.	Particulars	Qty	Price	Debit (KShs)	Credit (KShs)	Balance (KShs)
				Opening Balance As On 26-06-2023				30,219.19	
27-Jun-2023	Journal	82816		Fees on 27-06-2023			53.20		30,165.99 Cr

His balance was **KES 30,165.99** on the day he took up the **3 contracts (27TH June 2023)**

**SAFARICOM (Long 1 Contract)**

$(14.95-18) * 1 * 1000 = - 3050$  (LOSS)

**KCB (Short 2 Contracts)**

$(29-22.30) * 2 * 1000 = 13,400$  (PROFIT)

**Total 13,400 - 3050 = KES 10,350 PROFIT**

**Trading fees KES 26.80**

**NET TOTAL PROFIT 10350 – 26.80 = KES 10323.2**

His total Account Balance on the 21st of SEPT 2023 is now:

30,165.99 (Initial account balance) + 10,323.2 (profit) = KES 40,489.19

21-Sep-2023	Journal	2278	Initial Margin on 21-09-2023
22-Sep-2023	Withdraw	dep withdral	Margin Withdraw of KShs 40,489.19 for



As you can see in the image below, his **profit/loss was calculated on a daily basis** (what I earlier referred to as **Mark to Market Margin**).

Derivatives Margin

Date	Type	Reference	Cheque / Deposit No.	Particulars	Qty	Price	Debit (KShs)	Credit (KShs)	Balance (KShs)
				Opening Balance As On 26-06-2023				30,219.19	
27-Jun-2023	Journal	82816		Fees on 27-06-2023			53.20		30,165.99 Cr
27-Jun-2023	Journal	2180		Initial Margin on 27-06-2023			11,300.00		18,865.99 Cr
29-Jun-2023	MTM	10029		MTM Margin on 29-06-2023			2,900.00		15,965.99 Cr
30-Jun-2023	MTM	10037		MTM Margin on 30-06-2023				760.00	16,725.99 Cr
03-Jul-2023	MTM	10045		MTM Margin on 03-07-2023				300.00	17,025.99 Cr
04-Jul-2023	MTM	10053		MTM Margin on 04-07-2023			240.00		16,785.99 Cr
05-Jul-2023	MTM	10061		MTM Margin on 05-07-2023				220.00	17,005.99 Cr
06-Jul-2023	MTM	10069		MTM Margin on 06-07-2023			100.00		16,905.99 Cr
07-Jul-2023	MTM	10077		MTM Margin on 07-07-2023				2,900.00	19,805.99 Cr
10-Jul-2023	MTM	10085		MTM Margin on 10-07-2023			340.00		19,465.99 Cr
11-Jul-2023	MTM	10092		MTM Margin on 11-07-2023				270.00	19,735.99 Cr
12-Jul-2023	MTM	10100		MTM Margin on 12-07-2023			210.00		19,525.99 Cr
13-Jul-2023	MTM	10108		MTM Margin on 13-07-2023			1,810.00		17,715.99 Cr
14-Jul-2023	MTM	10116		MTM Margin on 14-07-2023			800.00		16,915.99 Cr
17-Jul-2023	MTM	10124		MTM Margin on 17-07-2023			4,370.00		12,545.99 Cr



In addition to the 10 single stock futures, we also **have index futures for the NSE 25 index**. This index tracks **25 key stocks in the Nairobi Securities Exchange** hence a good option if you want to speculate on the direction of the general market.

+		INDEX	SINGLE STOCK FUTURE									
Securities												
	Security										Last	
i	21 DEC23 25MN	B	0.00		0.00	S	D	G	O	X	R	2,482.00
i	21 MAR24 25MN	B	0.00		0.00	S	D	G	O	X	R	2,549.00
i	20 JUN24 25MN	B	0.00		0.00	S	D	G	O	X	R	2,615.00
i	19 SEP24 25MN	B	0.00		0.00	S	D	G	O	X	R	2,685.00
i	21 DEC23 N25I	B	0.00		0.00	S	D	G	O	X	R	2,482.00
i	21 MAR24 N25I	B	0.00		0.00	S	D	G	O	X	R	2,549.00
i	20 JUN24 N25I	B	0.00		0.00	S	D	G	O	X	R	2,615.00
i	19 SEP24 N25I	B	0.00		0.00	S	D	G	O	X	R	2,685.00

As you can see the contracts are named just like the Single Stock Future. The only difference comes in the **contract value calculation** and the **trading fees which are 0.14%**.

For the **NSE 25 Share Index futures contract (N25I)**, **One index point equals KES 100**.

So, contract value for 1 contract of the **21 DEC23 N25I** would be  $2482 \text{ (price)} * 1 \text{ (no. of contracts)} * 100 = \text{KES } 248,200$

For the **Mini NSE 25 Share Index futures contract (25MN)**, **One index point equals KES 10**.

So, contract value for 1 contract of the **21 DEC23 25MN** would be  $2482 \text{ (price)} * 1 \text{ (no. of contracts)} * 10 = \text{KES } 24,820$

**Please Note:** For margin calculations, use the Initial margins table provided earlier. Profit & Loss calculations are similar to the Single Stock Futures' calculations.

# HEDGING YOUR STOCK PORTFOLIO USING DERIVATIVES

I decided to include this as the last section because it borrows from one of the concepts I have mentioned, that is; **Shorting of futures contracts**, where you make a profit when the price of the underlying stock is falling.

Let's now shed more light on this concept of hedging using a practical example:

One investor owns **1000 shares of Safaricom** and **3000 shares of KCB**. The price of Safaricom is currently at **KES 13** while KCB'S share price is **KES 20**. His stock portfolio is currently valued at:

Safaricom ( $13 \times 1000$ ) = **KES 13,000**

KCB ( $20 \times 3000$ ) = **KES 60,000**

$13,000 + 60,000 =$  **KES 73,000**

However he is concerned that the share prices of both companies are going to fall in the next few days.

After a few days, his fears became a reality and the share price of **Safaricom fell to KES 11** while **KCB's share price fell to KES 18**.

His Stock Portfolio is now valued at:

Safaricom (11\*1000) = KES 11,000 (He has "lost" **KES 2000** on SCOM)

KCB (18\*3000) = KES 54,000 (He has "lost" **KES 6000** on KCB)

11,000 + 54,000 = **KES 65,000** (His stock portfolio is now worth – **KES 8000 LESS**)

He still doesn't want to sell his shares and incur the losses, because he believes both companies will recover at some point. What could he have done to make sure that he minimized his losses at the moment when he started having fears that the share prices of these companies were going to decline?

His Stock Portfolio was initially valued at:

Safaricom (13\*1000) = KES 13,000

KCB (20\*3000) = KES 60,000

13,000 + 60,000 = **KES 73,000**

To hedge this portfolio in the futures market, he needed to take a short position on the equivalent single stock futures of the same value as that of his stock portfolio. **This means that when the price of SCOM and KCB fall, he gets a profit in the futures market which offsets the loss on the stock portfolio.** Take a look:

### SAFARICOM

His SCOM shares are worth **KES 13000** hence he needs to pick up **21st DEC SCOM futures** worth KES 13000

From the calculations we did when determining the value of 1 futures contract of SCOM:

13 (price) \* 1 (number of contracts) \* 1000 (underlying shares) = **KES 13000**

This means that he only needs **to short 1 futures contract of SCOM** to hedge his SCOM holdings.

*(Remember he will not have to deposit the entire 13,000 to pick up this contract. He will only be required to have the margin amount plus trading fees (around KES 2552.1)).*



KCB

His KCB shares are worth **KES 60000** hence he needs to pick up **21st DEC KCB futures** worth KES 60000

From the calculations we did when determining the value of 1 futures contract of KCB:

$$20 \text{ (price)} * 1 \text{ (number of contracts)} * 1000 \text{ (underlying shares)} = \text{KES } 20000$$

This means that he needs to **short 3 futures contract of KCB** to hedge his KCB holdings.

*(Remember he will not have to deposit the entire 60,000 to pick up the 3 contracts. He will only be required to have the margin amount plus trading fees (around KES 5382).*

Let's now see how this works:

Keep in mind that the **share price of Safaricom fell to KES 11** while **KCB's share price fell to KES 18**.

## FUTURES MARKET PROFITS

### Short 1 contract of 21ST DEC 2023 SCOM Futures

$(13-11) \text{ price change} * 1 * 1000 = \text{KES } 2000$

### Short 3 contracts of 21ST DEC 2023 KCB Futures

$(20-18) \text{ price change} * 3 * 1000 = \text{KES } 6000$

Total Profit:  $2000 + 6000 = \text{KES } 8000$

**This profit of KES 8000 in the futures market now offsets the loss of KES 8000 he had on his stock portfolio.**

I hope you now understand how you can hedge your stock portfolio using futures contracts available in our local derivatives market!

# FAQs

## Do we have a Derivatives Market in Kenya?

Yes, we do. **NEXT** is the **Nairobi Securities Exchange (NSE) derivatives market** that facilitates the trading of derivatives in the Kenyan market. NEXT is regulated by the **Capital Markets Authority (CMA)**.

## Which Derivatives are available on NEXT?

At the moment, NSE NEXT only offers futures contracts for 10 key NSE listed companies/ stocks including **Safaricom, Equity, KCB, NCBA, ABSA, COOP BANK, BAT, EABL, STANCHART and I&M**. These are referred to as **SINGLE STOCK FUTURES** and derive their value from the performance of the equivalent underlying stocks. We also have **INDEX FUTURES** for the **NSE 25 Index** which is a benchmark index for 25 key stocks on the NSE.

## How can I get started

Visit the [Aib-Axys Africa website](https://www.aib-axysafrica.com/derivatives) (https://www.aib-axysafrica.com/derivatives). On this page you will find an option to open an account, instruction on how to fund it and some educational resources.

## How much do I need to get started

The recommended amount would be KES 10,000.

## Can I trade Derivatives online?

Yes, you can. After your account is opened, you will be able to **trade derivatives online** on a platform called **AVVENTO** provided by the NSE. A [link](#) to the AVVENTO platform is available on the AIB-AXYS website under the derivatives segment. Use your email as the username and the system generated password sent to your email.

Check out our new Derivatives video on our [YouTube Channel](#)

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# Q & A

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