

OPTION STRATEGIES

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This report is for information purposes only. This report is not to be construed as investment advice. The author takes no responsibility for any facts or omissions contained or not contained in this report. Futures and options are risky and can result in substantial losses. Consult your broker for further information.

One way that a trader can protect himself against commodity price exposure via the options market is to sell a call option. In our example we will look at the sale of a July White Maize 800 call option.

A call option obligates the seller to sell the underlying commodity at a fixed price (800 R/Ton in our example), for a fixed period of time (until June 24 in our example). The underlying commodity is July White Maize futures. The benefit received for this obligation is the premium, which is paid by the option buyer and received by the option seller, over the course of the marked to market process. This premium depends on market conditions such as volatility of the market, time to expiration, market direction, and the supply and demand for options in general.

Options sellers pay margin payments to SAFEX similar to the way futures sellers pay margin. In our example the initial margin amount should be less than if the trader sold futures at current market levels (approx. 750 R/Ton in July futures). Check with your broker or SAFEX for more information on margin.

There are three ways to exit an option position:

Offset: You do this by simply buying back the option that you previously sold on the SAFEX market. This may or may not result in a profit, depending on your ability to predict market direction in a timely manner.

Exercise: The option buyer decides whether or not to exercise an option. He will usually find it optimal to exercise if the futures market is trading higher than the strike price of the call option that he purchased (higher than the 800 Rand/Ton level in our example). When the option is exercised, both the buyer and seller will be assigned opposing futures positions.

Expiration Let the option expire worthless by simply doing nothing. The most the seller will gain is the premium that he received for selling the option to the buyer. The option buyer will usually not exercise the option if the futures market is trading below the strike price of the option (800 Ran/Ton in our example).

Example: Sell 100 July 800 WM1 calls for 15 R/Ton (R1500 per contract or R150,000 total).

The seller of the July 800 call is obligated to sell July White Maize futures at 800 R/Ton no matter how high the price is actually trading in the futures market. In return for this obligation the seller of the option will receive a premium which he can keep no matter what happens in the underlying futures market. Sellers of options can be faced with additional margin calls if the market moves against them.

Benefits to the Seller:

1. Seller keeps the 15 R/Ton premium.
2. This premium could be used to reduce the cost basis of maize purchased previously in the cash or futures market, or could be applied to storage costs. This creates a cash market advantage to the option seller vis-à-vis similar cash market competitors.
3. Selling this call is less risky and should have a lower margin than selling futures contracts at current levels to protect maize inventory against declining prices.
4. The 15 R/Ton premium could be used to protect previously purchased maize inventory from a further price decline in the market.
5. Call selling sometimes provides for a delivery mechanism to sell previously purchased, higher priced, and unnecessary maize at prices above the prevailing market price.
6. Doing nothing leaves the trader owning maize stockpiles which are unprotected against further price declines, liable for storage costs and unable to reduce the cost basis of previously purchased, higher priced maize.

Risks to the Seller:

1. The maize market suddenly explodes to over 800 R/Ton by July and the options seller is obligated to sell July White Maize futures at only 800 R/Ton.
2. Additional margin calls.
3. The maize market plunges more than 15 R/Ton and then our call seller are unprotected against further price declines past the initial 15 R/Ton (which represents the premium he collects).

Now let us look at the delta graph at option expiration for our example. As we can see, our futures position goes from being short 0 to short exactly 100 contracts, once the July White Maize futures market trades over the 800 R/Ton level.

In order to gain a better understanding of this dynamic we should now focus on the equity graph, which shows our profit or loss profile over a range of prices at expiration. As we can see from the graph, the most we can make is the 15 R/Ton which we received for the options (15 R/Ton X 10,000 Tons = R150,000). Our break-even level is the 815 futures price level. This is our best case effective sale price for the maize. This is derived by taking the option strike price (800) and then adding to it the option premium we received (15 R/Ton). If the market goes above 815 we start losing money Rand for Rand with the futures market, and our position becomes just as risky as if we sold 100 July White Maize futures instead of selling the calls.

I hope you will consider the option strategy previously outlined in order to help minimize the risks associated with purchasing stockpiles of higher priced maize through the futures, forward and cash markets, in order to protect against the forecasted drought threat. I realize it is painful to consider additional derivative strategies now, but this is the time most prescient to consider them. This strategy has the potential to lower the break-even price which you paid for the maize, or could be used to pay storage costs, or to help provide price protection should maize prices move down further. The cost of doing nothing could be very high indeed.

Please note that I hope the above examples help you in your option trading. It is not meant to be investment advice, and as you can see from the above examples, there is risk of loss. Also, commissions and fees were left out for simplicity purposes. Furthermore, the option prices quoted in the above examples may or may not be executable at the levels cited, depending on market conditions which prevail at the time of execution.

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One way that a trader can either get short commodity or protect his maize inventory with a floor price is to purchase a put option. In our example we will look at the purchase of a July White Maize 760 put option.

A put option gives the option buyer the right, but not the obligation to sell the underlying commodity at a fixed price (760 R/Ton in our example), for a fixed period of time (until June 24 in our example).

The price for this flexibility is the premium paid by the put option buyer and received by the seller over the course of the marked to market process. This premium depends on market conditions such as market volatility, time to option expiration, market direction and the supply and demand for options in general.

Regardless of how much the market fluctuates, the most the option buyer can lose is the premium level he paid for the option. Because of this limited and known risk, buyers of options are never faced with additional margin calls.

There are three ways to exit an option position:

Offset: You do this by simply selling the same option that you originally purchased on the SAFEX market. This may or may not result in a profit, depending on your ability to predict market direction in a timely manner.

Exercise: The option buyer decides whether or not to exercise an option. He will usually find it optimal to exercise if the market is trading lower than the strike price of the put option that he purchased (lower than 760 R in our example). When the option is exercised, both the buyer and seller will be assigned an opposing futures positions at the strike price of the option (760 in our example).

Expiration Let the option expire worthless by simply doing nothing. The most the option buyer can lose is what he paid for the option. It is usually optimal to let the put option expire if the market is trading above the strike price of the option (760 in our example).

Example 1: Buy 100 July 760 WM1 put options for 40 R/Ton (R4000 per contract or R400,000 total). This give the put option buyer the right, but not the obligation to sell 100 July WM1 futures contracts at 760 until June 24, 1998. The cost for this is 40 R/Ton.

Benefits to the Buyer:

1. The buyer of the put option has guaranteed himself a selling price of R760 per ton for WM1 until June 24 at a cost of 40 R/Ton.
2. The most the put option buyer will lose if the market is above 760 is 40 R/Ton (this is half the SAFEX margin for a short futures position).
3. No additional margin calls no matter how adverse the market moves.

Risks to the Buyer:

1. The futures market trades above the 760 R level until the expiration of the options.
2. The buyer of the put option could lose his entire 40 R/Ton premium.

Now let us look at the delta graph at option expiration for our example 1. The delta graph tells us how many futures contracts we are long or short at a given range of prices. As we can see, our position goes from being short 0 contracts if the market is above 760 R, to short exactly 100 contracts if the market is trading below 760 at option expiration. This is a very powerful risk/reward dynamic, which saves us from being short 100 contracts in a rising market, while allowing us to retain the benefit of being short 100 contracts in a falling market. The cost of obtaining this favorable risk/reward dynamic is the premium level we pay for the options.

In order to gain a better understanding of this dynamic we should now focus on the equity graph for example 1, which shows our profit or loss profile over a range of market prices at options expiration. As we can see from the graph, the most we can lose is the 40 R/Ton which we paid for the options ($40 \times 10,000 \text{ tons} = \text{R}400,000$). Our break-even level is the 720 R/Ton futures price. This break-even level is derived by taking the option strike price (760) and subtracting the option premium that we paid (40 R/Ton) to arrive at that number.

After the market breaks through the 720 R level we start making money Rand for Rand with the futures market. If the market should drop to 600 R/Ton, then our put option buyer would make approximately R1,200,000, or he would have at least created an effective floor price for his maize inventory of 720 R. Last month White Maize futures on SAFEX dropped over 150 Rand.

Example 2: Sell 100 July 760 call options for 35 R/Ton (3,500 per contract or R350,000 total).

Another way that a trader can get short a commodity via the options market is to sell a call option. In our example we will look at the sale of a July WM1 760 call.

A seller of the July 760 call option is obligated to sell July White Maize futures at 760 R/Ton no matter how high the price is actually trading in the futures market. In return for this obligation, the seller of the call option will receive a premium, over the course of the marked to market process, which he can keep no matter what happens in the underlying futures market. Sellers of options can be faced with additional margin calls if the market moves substantially against them.

Benefits to the Seller:

1. The call option seller gets to keep the 35 R/Ton premium if he stays with the option position until expiration.
2. This premium could be used to protect maize inventories from a 35 R/Ton price decline, or this 35 R/Ton could be applied to storage costs, or could be used to reduce the basis price for the maize stockpile on hand. This creates a cash market advantage to the option seller vis-à-vis similar cash market competitors.
3. Selling the 760 call could be a less risky strategy than selling 100 July WM1 futures if prices stay around current levels (approx. 755 R/Ton).

Risks to the Option Seller:

1. The maize market rallies far above the 760 R/Ton level and the call option seller is obligated to sell his maize at 760.
2. Additional margin calls.
3. The futures market plunges more than 35 R/Ton and the option seller will then be left unprotected on his maize inventory once prices start dropping further than 35 R/Ton.

Now let us look at the delta graph at option expiration for our second example. As we can see, our position goes from being short 0 contracts if the market is below 760 at expiration, to being short exactly 100 contracts if the market trades over 760 at expiration.

In order to gain a better understanding of this dynamic we should now focus on the equity graph, which shows our profit or loss profile over a range of prices at expiration. As we can see from the graph, the most we can make is the 35 R/Ton which we received for the options (35 R/Ton X 10,000 Tons = R350,000). Our break-even level is the 795 futures level. This is our best case effective selling price for the maize. This is derived by taking the strike price (760) and adding the 35 R/Ton premium we received for selling the option. After the market moves above the 795 level we start losing money Rand for Rand with the futures market, and our position becomes just as risky as if we sold 100 July WM1 futures instead of selling the 760 call options.

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One way that a trader can either get long a commodity via the options market is to purchase a call. In our example we will look at the purchase of a July White Maize 760 call option.

A put option gives the option the right, but not the obligation to buy the underlying commodity at a fixed price (760 R/Ton in our example), for a fixed period of time (until June 24 in our example).

The price for this flexibility is the premium paid by the buyer of the option and received by the seller. This premium depends on market conditions such as market volatility, time to option expiration, market direction and the supply and demand for options in general.

Regardless of how much the market fluctuates, the most the option buyer can lose is the premium level he paid for the option. Because of this limited and known risk, buyers of options are never faced with additional margin calls.

There are three ways to exit an option position:

Offset: You do this by simply selling the same option that you originally purchased on the SAFEX market. This may or may not result in a profit, depending on your ability to predict market direction in a timely manner.

Exercise: The option buyer decides whether or not to exercise an option. He will usually find it optimal to exercise if the market is trading higher than the strike price of the call option that he purchased (higher than 760 R in our example). When the option is exercised, both the buyer and seller will be assigned an opposing futures position.

Expiration Let the option expire worthless by simply doing nothing. The most the buyer can lose is what he paid for the option. It is usually optimal to let the put option expire if the market is trading above the strike price of the option (760 in our example).

Example 1: Buy 100 July 760 WM1 calls for 40 R/Ton (R4000 per contract or R400,000 total).

Benefits to the Buyer:

1. The buyer of the put option has guaranteed himself a purchase price of not more than R760 per ton for WM1 until June 24 at a cost of 40 R/Ton.
2. The most the option buyer will lose if the market is above 760 is 40 R/Ton (this is half the SAFEX margin for a short futures position).
3. No additional margin calls no matter how adverse the market moves.

Risks to the Buyer:

1. The futures market stays below 760 R until expiration of the options.
2. The buyer loses his entire premium of 40 R/Ton.

Now let us look at the delta graph at option expiration for our example 1. The delta graph tells us how many futures contracts we are long or short at a given range of prices. As we can see, our position goes from being long 0 contracts if the market is below 760 R, to long exactly 100 contracts if the market trades over 760 at option expiration. This is a very powerful risk/reward dynamic, which saves us from being long 100 futures contracts in a declining market, while retaining the benefit of being long 100 contracts in a falling market. The cost of obtaining this favorable risk/reward dynamic is the premium level we pay for the options.

In order to gain a better understanding of this dynamic we should now focus on the equity graph for example 1, which shows our profit or loss profile over a range of market prices at expiration. As we can see from the graph, the most we can lose is the 40 R/Ton which we paid for the options (40 x 10,000 tons = R400,000). Our break-even level is the 800 R/Ton futures price level. This is derived by taking the option strike price (760) and adding the option premium that we paid (40 R/Ton) to arrive at that number.

After the market breaks through the 800 R/Ton level we start making money Rand for Rand with the futures market. If the market should return to the levels it was at one month ago, approximately 890 R/Ton, then our option buyer would make approximately R900,000, or he would have at least protected his purchase price for July WM1 to an effective price of 800 R/Ton.

Example 2: Sell 100 July 700 puts for 30 R/Ton (R3,000 per contract or R300,000 total).

Another way that a trader can get long a commodity via the options market is to sell a put. In our example we will look at the sale of a July White Maize 700 put.

A seller of the July 700 put is obligated to buy July White Maize futures at 700 R/Ton no matter how low the price is actually trading in the futures market. In return for this obligation, the seller of the option will receive a premium that he can keep no matter what happens in the underlying futures market. Sellers of options can be faced with additional margin calls if the market moves substantially against them.

Benefits to the Seller:

1. Seller gets to keep 30 R/Ton premium.
2. This premium could be used to make maize purchase at a 30 R/Ton discount to prevailing market rates at the time of physical maize procurement. This creates a cash market advantage to the option seller vis-à-vis similar cash market competitors.
3. Selling this put is less risky and should have a lower margin than buying 100 futures contracts at current levels (approx. 730).

Risks to the Seller:

1. The market falls far below R700 by July and the option seller is obligated to buy July White Maize futures at 700 R/Ton.
2. Additional margin calls.
3. The futures market explodes to R890 and the option seller is long 0 contracts and has to pay R890 to procure maize. (However his effective price is 860 (890 – R option premium)).

Now let us look at the delta graph at option expiration for our second example. As we can see our position goes from being long 0 contracts if the market is above 760 R/Ton to being long exactly 100 contracts as July White Maize futures drops below 700 at option expiration.

In order to gain a better understanding of this dynamic we should now focus on the equity graph, which shows us our profit or loss profile over a range of prices at expiration. As we can see from the graph, the most we can make is the 30 R/Ton which we received for the options (30 R/Ton X 10,000 Tons = R300,000). Our break-even level is the 670 futures price level. This is our best case effective purchase price for the maize. This is derived by taking the strike price (700) and subtracting the option premium we received (30 R/Ton). After the market breaks below the 670 R/Ton level we start losing money Rand for Rand with the futures market, and our position becomes just as risky as if we bought 100 July White Maize futures instead of selling the puts.

The Best of Both Worlds

Example 3: Buying 100 July 760 calls for 40 R/Ton and selling 100 July 700 Puts for 30 Rton. The cost to do this package is approx. 10 R/Ton.

Benefits:

1. The trader guaranteed himself a purchase price of white Maize of not more than 760 R/Ton at a cost of only 10 R/Ton.
2. The price may be as low as 700 R/Ton if the July futures market drops below the 700 R/Ton level by options expiration.
3. This is less risky than buying 100 July futures at current levels (approx. 730 R/Ton).
4. The initial margin should also be lower, however check this with your broker or SAFEX.

Risks:

1. If the market plunges below 700 R/Ton by July, the trader is obligated to buy futures at 700 R/Ton because he sold the 700 put.
2. Additional margin calls.
3. If the market stays at its current price, the trader loses the 10 R/Ton premium which he paid to do this combination and he will also have to procure maize in the futures or cash markets.

Now let us look at the delta graph for example 3 at option expiration. Our position goes from being long 0 to 100 contracts as the market price goes above the 760 level. We also go from being long 0 to 100 contracts if the market drops below 700. In between 700 – 760 we have a 0 contract position..

In order to gain a better understanding of this dynamic we should now focus on the equity graph. As we can see from the graph, if the market for July White Maize futures is between 700 – 760 at option expiration, then we lose the 10 R/Ton which we paid for this position (10 R/Ton X 10,000 tons = R100,000). If the market drops below 700 then we lose money Rand for Rand with the futures market just as if we bought 100 futures instead of doing the options deal. However, if the market rallies to over 770, our option position makes money Rand for Rand with the price changes in the futures market.

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