A brief introduction to Equity Options

Part one of a series of Options brochures brought to you by the JSE

> Ever needed more time to decide if you want to buy or sell a share?
> Ever owned shares and wanted to protect them against falling markets?
> Ever thought it’s a good time to buy shares but you don’t have the money immediately?
> Ever wanted to earn extra returns on your existing portfolio?

Ask your broker how JSE Equity Options can give you the right (not the obligation) to buy or sell shares at predetermined prices in the future...

Introduction

Options are not new financial instruments; they’ve been around since the 1600s when the Dutch tulip farmers used them to protect/insure their harvests. There are two types of options traded on the JSE’s Equity Derivative market (SAFEX), call options and put options.

> Call options give the buyer the right, but not the obligation, to buy the underlying shares at a predetermined price in the future, while
> Put options give the buyer the right, but not the obligation, to sell the underlying shares at a predetermined price in the future.

For example, a SEP MTNQ 150 Call option gives the purchaser the right to buy 1 single stock futures (SSF) contract, (which equates to 100 underlying shares) in MTN for R150.00 per share, on or before the expiry date of the option in September. If the holder (buyer) decides to exercise the option, the writer (seller) of the option must sell 1 MTN futures contract at R150 per share, regardless of what the MTN share price is on the day. Note that the holder of the option is not obligated to exercise the option. The buyer may sell the option before expiry, or could let the contract lapse at expiry, in which case the option holder will only lose what was paid for the option.

Price of an Option

In order to obtain the right but not the obligation to buy the MTN share at R150, the option buyer pays the option seller a “premium”. The premium is therefore the price at which the option writer agrees to sell the option to the investor. Note that the premium excludes transaction and brokerage costs. This premium is paid over the life of the contract as options listed on the JSE are futures style options. The following components are critical in calculating the premium of an option: Underlying Securities, Expiry date, Exercise price, Contract size and Volatility.

Underlying Securities

On SAFEX, options are traded on most of South Africa’s largest and liquid companies, including Anglo American, Telkom Group, Sasol, Naspers, MTN and all South African banks. Options are also available on most FTSE/JSE Indices. The FTSE/JSE Top 40 Index is the most popular index for options.* JSE options can be based on either physical or cash settled futures. In the case of physical settled futures, the buyer and seller would be required to exchange the physical stock. For cash settled contracts, investors will only realise the profits/losses in the derivative market without ever exchanging the physical script.

Expiry date

This is the day in the future on which all unexercised options for the specified contract date will expire. On SAFEX, options generally expire on the third Thursday of March, June, September and December. These dates correspond with SAFEX’s equity market close-outs when all the contracts for that expiry are settled. Upon expiry the option will automatically be exercised if it is in the money (e.g. if the expiry price is 1 cent or more above the strike price). It will convert into a Single Stock Future expiring on that day. That evening investors will realise a futures profit/loss on SAFEX.

Exercise/Strike price

This is the agreed price at which you will buy or sell the underlying securities if you exercise the option in the future. In order to force liquidity, SAFEX sets the interval of these prices. The strike interval for Single Stock Options is 50c, and 50 points for options on the FTSE /JSE Top 40 Index.

Contract size

One option contract covers 100 underlying shares (1 futures contract) in the case of index options; the contract value is currently fixed at R10 per index point.

Implied Volatility

Volatility indicates the size of the underlying security’s price movements as a percentage. Even though historic price movements are used as a base, market conditions and sentiment will also reflect in the final value. There is a direct correlation between volatility and the premium paid; the higher the volatility, the more expensive the option. SAFEX calculates and publishes an accurate volatility daily. The transparency of volatility on SAFEX is one of the key differences between the Equity Options and Warrants market.

*The JSE does not list futures and options on illiquid instruments.
Benefits of Options

There are several sound strategic reasons for investors to use options. Some of these reasons are listed below.

Protect the value of your shares

Put options allow investors to protect the value of their shares against a declining underlying security price. Buying a put option locks in the sale price of the investor’s shares for the duration of the option contract, no matter how low the share price may go.

Without using put options, in a market downturn you have no protection against prices declining except to hang on and wait for better times or to sell your equities for whatever you can obtain in the market.

Options are often described as the only guaranteed stop loss, as falling markets cannot gap through the agreed strike price.

For example, if in early February you believe the SSF price of Old Mutual Group (OMLQ) is going to fall from current levels of R20 to around R15, you could buy a MAR OMLQ 20 Put option, for R116 per contract. (R1.16 per share) This option gives you the right to sell your OMLQ futures at the exercise price of R20 at any time up until the option’s expiry. A major benefit of this strategy is that if the share price rises, you are not obligated to sell your shares. Your shares will benefit from any price rise, and all you have lost is the put option premium of R1.16 per share.

Extra Returns through Covered Calls

Investors can earn extra income on their equity and futures holdings by writing (selling) call options on shares or SSFs that they own. This is an attractive strategy for investors who expect the price of their shares to remain constant or fall slightly. Writing call options can be a good way to generate extra income when the market is flat or slightly negative. Writing options is not for the novice investor and needs to be understood.

For example, assume you own 100 shares in Standard Bank (SBKQ), which in early July are trading at a SSF Fair Value of R74. You believe that over the next couple of months, the share price is likely to maintain its current levels. You write a SEP SBKQ 80 Call option for a premium of R240. Writing/selling the SEP 80 Call means that you accept the obligation to sell your Standard Bank shares for R80, if the option is exercised. For this you receive the premium of R2.40 per share (R240 for the contract).

If at expiry (September), the share price is below R80, the option should expire worthless. Your SBKQ shares may have decreased in value, but you have earned R240 in extra income for selling the call. Because of the extra income, in this example the single stock futures price must decline below R71.60, for you to make a loss on the strategy as a whole. If, however, the share price rises above R80 at or before the contract’s expiry, the option will be exercised and you will have to sell your shares. Effectively you have sold your shares for R82.40, R80 for the shares and the R2.40 per share option premium.

Option trading strategies are explained in Part 3 of the Options brochures series.

Speculate

Investors and traders can use options to profit from a movement in the underlying SSFs and shares without the costs of trading the shares themselves. Options give you exposure to movements in the share price for a fraction of the cost of purchasing the shares themselves. Because of the small initial outlay on margin, you can obtain geared exposure to share price movements.

With an increase in the price of the underlying shares, the total percentage return on the purchase of a call option will be greater than on the purchase of the underlying stock.

Similarly, if the price of the underlying shares fall, the percentage return on the purchase of a put option will be greater than the percentage change in value of the shares.

For example, assume it is the middle of May and you believe the price of Netcare (NTC) will increase substantially by September. In the below table we contrast buying the equity at R7.90 with buying an R7.90 strike price call option with buying the underlying shares.

Electronic versions of the brochures are available at the following URLs:
  - Part 1: http://www.safex.co.za/ed/docs/options/A_Brief_Intro_To_Options.pdf
In the above example the percentage return from buying the call options is significantly greater than the return from buying the shares. That is because in both scenarios you made about R100, but for the option position it only cost you R50 to gain that exposure whereas in the underlying share market it would have cost you R790 for the same return in Rand. However, just as leverage provides the potential to earn higher percentage returns, it also involves the risk of sustaining larger percentage losses.

Transaction costs and brokerage fees were excluded in all examples for simplicity.

Time to decide
There may be times when you aren’t certain if you should go ahead with the purchase or sale of shares. Buying an option enables you to defer your decision until the option’s date of expiry.

By buying a call option you lock in the purchase price of the shares. You then have until the expiry date to decide whether or not to exercise the option and buy the shares. Similarly, by purchasing a put option you ensure a fixed selling price, and give yourself time to decide whether or not to proceed with the sale of the shares.

In both cases, the most you can lose is the premium you have paid for the option.

Index Options
Index options are similar to share options with the exception that they are exclusively cash settled. Upon expiry the investor will therefore receive or pay the difference between the final closing price and the strike price. Index options are based on a basket of stocks as opposed to a single stock.

By using index options, investors can therefore effectively trade a selection of stocks in one transaction. If you hold a view on how the equity market as a whole will perform, buying or selling index options is an easy and cost-effective way to trade your view. Index options provide diversified exposure, without having to invest directly in the many stocks that make up the index.

How Options are traded
You place an order through your broker, just as you would with shares or futures. Your broker will attempt to find a counterparty prepared to sell you the desired option. Options are traded on Nutron, an automated trading system linking derivatives brokers from all over South Africa. In order to trade options, clients will have to use their existing Futures account or open a SAFEX account with a broker. A client agreement form and risk disclosure statement will have to be signed. A broker will provide you with the necessary documents.

Margining
There are 2 types of margins: initial margin and variation margin. An initial margin is a relatively small deposit – in comparison to the nominal value of the contract – which both the buyer and seller must lodge with the clearing house as security. This initial margin is a good faith deposit that is returned to you with interest when you exit your position. With a variation margin, your daily profit or loss is calculated. A loss requires payment to the South African clearing house via your broker. Each day the position is open, the initial margin and the variation margin are calculated. Your initial margin fluctuates as the value of the option and the risk associated with the option fluctuates. Each night, the exchange recalculates the current price of your option as if you were to purchase it today. The option holder will receive cash if the option has increased in value, and pay in cash if the option has decreased in value. This process is similar to that for a futures contract, with the addition that changes in the implied volatility of your option are also taken into account in our calculations. Once again, the maximum loss incurred is limited to the premium paid.

Margining is explained in detail in Part 2 of the Options brochures series.

The JSE’s options on equities and equity indices are options on futures. This means that they are exercisable into futures contracts and the premium is paid over the life of the contract, only settling at expiry. They are also margined over the life of the option. This margining helps to ensure that market participants are protected from defaulting counterparties. Like any investment, options have risks that you need to understand before investing. Please consult your broker before investing.

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