INDEX OPTIONS BEGINNERS TUTORIAL

BUY A PUT TO TAKE ADVANTAGE OF A RISE

A diversified portfolio of EUR 100,000 can be hedged by buying put options on the Eurostoxx50 Index. To avoid paying too high a premium, one will choose a strike price that is at the money or slightly out of the money.

On august the 1st, with the underlying index at 2595, the premium for a put option with a strike price of 2575 and a September expiry is 16.90 per contract or 169 Euros given the 10 Euros lot size.

The number of put options to be bought is calculated as follows:

$$\frac{\text{Portfolio}}{\text{Strike price X multiplier}} = \frac{€100{,}000}{2575 \text{ X } €10} = 3.88$$

Hedging a perfectly diversified euro-zone portfolio worth 100,000 Euros by buying 4 September put options with a strike price of 2575 thus costs 676 Euros.

Unlike selling Futures, buying put options allows the hedger to profit from any rise in the index.

If the value of the index at expiry is 2335,50 (-10 pct.), exercising the put options bought 47 days earlier provides a gain of 9 580 Euros ((2575 – 2335,5) X 4 (number of contracts) X 10 Euros(multiplier)) which offsets the 10,000 Euros loss on the portfolio.

(100,000 EUR X -10 pct. = - 10,000 Euros.)

Total: - 676 Euros (premium) + 9,580 Euros (gain on the put options) -10,000 Euros (loss on the portfolio) = - 1,096 Euros or -1,01 pct. as opposed as -10 pct. without the options hedge.

If, on the other hand, the index closes at 3114 (+20 pct.), the options are not exercised and the portfolio is worth 120,000 Euros (100,000 Euros X (1+20pct)) less the premium paid for the options (676 Euros).

Selling covered calls

An investor running a portfolio of European equities wants to achieve a higher return. His holdings have already posted gains, he is confident the current sluggish trend will continue, and he believes the uncertainty of future returns is sufficiently low that he can afford to take a short position in call options.

He therefore decides to write call options on the Eurostoxx50 index. The option premiums provide immediate cash income today. The constraint is that if the stocks in his portfolio rise sharply, his gains will be limited. The options he writes are European options, which mean that he cannot be assigned before expiry.

Strategy:

For simplicity, the example below uses a portfolio composed of just two stocks, but the generalization to the case of n stocks is straightforward.

A portfolio consist of two stocks, A and B, valued at 40 Euro and 60 Euro respectively. The manager holds 1 100 shares of A, which has a beta of 1.20 relative to the Eurostoxx50 index, and 600 shares of B, which has a beta of 0.75. (Beta: a measure of the sensitivity of an asset X to a benchmark index Y.

His portfolio is therefore worth 80,000 Euro (1 100 X 40 Euro + 600 X 60 Euro). The Eurostoxx50 index is quoted at 2330 points. This portfolio is perfectly correlated with the index, since the combination of each stock's beta weighted by its capitalization in the basket gives an aggregate beta of 1.00.

For this portfolio, the number of call options to be sold is obtained in the following fashion:

$$\frac{\text{Portfolio Value}}{\text{Index value X multiplier}} = \frac{\text{80000 Euro}}{\text{2330 X 10}} = 3.43$$

The manager, being conservative, chooses the DEC11 2600 Call at 38,70. Sell 4 eurostoxx50 Dec11 2600 calls at 38,70 each for an immediate gain of 1 548 Euro (38,70 X 4 (number of contracts) X 10 (multiplier)).

Results:

Depending on the case, having sold call options three months earlier enables the manager to:

- Limit losses on the portfolio when the eurostoxx50 index falls.
- Make a profit when the eurostoxx50 index moves sideways.

- Increase the return on the portfolio when the eurostoxx50 index rises only slightly.

Above 2638,70 points (strike price + premium), the assignment resulting from the short position in call options limits the portfolio return to about 13.25 pct. even if the index closes up to 20 pct.

Day trading using options

With options offering leverage and loss-limiting capabilities, it would seem like day trading options would be a great idea. In reality, however, the day trading option strategy faces a couple of problems.

Firstly, the time value component of the option premium tends to dampen any price movement. For the near the money options, while the intrinsic value may go up along with the underlying stock price, this gain is offset to a certain degree by the loss of time value.

Secondly, due to the reduced liquidity of the options market, the bid-ask spreads are usually wider than for stocks, sometimes up to half a point, again cutting into the limited profit of the typical day trade.

So if you are planning to day trade options, you must overcome these two problems.

Your Day Trading Options: Near month and in the Money

For day trading purposes, we want to use options with as little time value as possible and with delta as close to 1.0 as we can get. So if you are going to day trade options, then you should day trade the near month in-the-money options of highly liquid indices.

We day trade with near month in the money options because in the money options have the least amount of time value and have the greatest delta, compared to at the money or out the money options.

Furthermore, as we get closer to expiration, the option premium is increasingly based on the intrinsic value, and so the underlying price changes will have a greater impact, bringing you closer to realizing point for point movements of the underlying index. Near month options are also more heavily traded than longer term options, hence they are also more liquid.

The more popular and more liquid the underlying stock, the smaller the bid-ask spread for the corresponding options market.

When properly executed, day trading using options allow you to invest with less capital than if you actually bought the stock, and in the event of a catastrophic collapse of the underlying index price, you loss is limited to only the premium paid.

Disclaimer

The curriculum is produced for the purposes of general education.

None of the information contained herein constitutes an offer to purchase or sell a financial instrument or to make any investments. Cornèrtrader and / or Cornèr Bank do not take into account your personal investment objectives or financial situation and make no representation, and assume no liability to the accuracy or completeness of the information provided, nor for any loss arising from any investment based on a recommendation, forecast or other information supplied from any employee of Cornèr Bank, third party, or otherwise. Trades in accordance with the recommendations in an analysis, especially, but not limited to, leveraged investments such as foreign exchange trading and investment in derivatives, can be very speculative and may result in losses as well as profits. You should carefully consider your financial situation and consult your financial advisor(s) in order to understand the risks involved and ensure the suitability of your situation prior to making any investment or entering into any transactions. All expressions of opinion are subject to change without notice. Any opinions made may be personal to the author and may not reflect the opinions of Cornèrtrader and / or Cornèr Bank. Furthermore, please refer to Cornèr Bank and Cornèrtrader full General Disclaimer.

Cornèr Bank Ltd. // Cornèrtrader // Tödistrasse 27 // 8002 Zurich_Switzerland
Tel: +41 58 880 80 80 // Fax: +41 58 880 80 81 // info@cornertrader.ch // cornertrader.ch