

ANALYSIS OF OPTION COMBINATION STRATEGIES

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ABSTRACT

The investors are really facing very hardship in adding value and surviving their investment fund because of global economic slowdown, inflation rate, exchange rate, straightforward investment policy and shortage of financial literacy. That's why most of investors need to hedge against risk (minimize risk) and maximize return with efficient portfolio management and diversification. There is a great need to evaluate the red flags and gold nuggets from various financial and real assets alternatives based on different parameters and it can be found which combination of assets are more able to cope up with the changing environment for wealth creation.

Key words: Hedge, inflation, portfolio, risk.

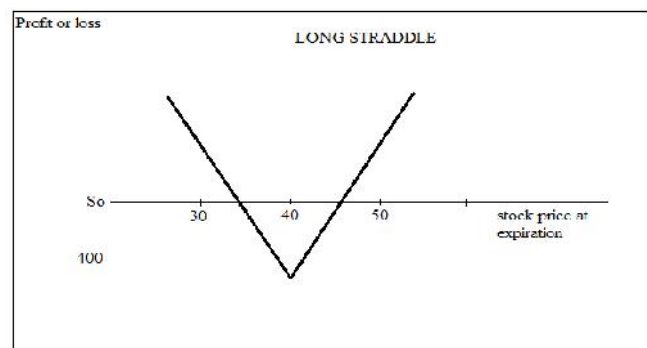
INTRODUCTION

COMBINATIONS: Spreads involve taking positions in call or put options only. Combinations represent option trading strategies which involve taking position in both calls and puts on the same stock. Important combination strategies include straddles, strips, straps and strangle.

STRADDLE

A straddle is one which involves buying a call and put with same strike price and expiration date. If the stock price is close to the strike price at expiration of the options, the straddle leads to a loss. However if there is a sufficiently large move in either direction, a significant profit will result. A straddle is appropriate when an investor is expecting a large move in a stock price but does not know in which direction the move will be. A straddle buyer buys a call and a put option and the seller sells a call and a put option at the exercise price and the same expiration date. The maximum loss associated with the long straddle is the premium paid. Profit potential is unlimited when the prices of the underlying asset rise significantly and limited when it falls significantly.

Figure 1.1: Illustration for Straddle



STRIPS AND STRAPS:

A strip consists of a long position in one call and two puts with the same strike price and expiration date. In a strip the investor is betting that there will be a big stock price move and considers a decrease in the stock price to be more likely than an increase.

A strap consists of a long position two calls and one put with the same strike price and expiration date. In a strap the investor is also betting there will be a big stock price move. However, in this case an increase in stock price is considered to be more likely than a decrease.

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Figure 1.2: Illustration for Strips

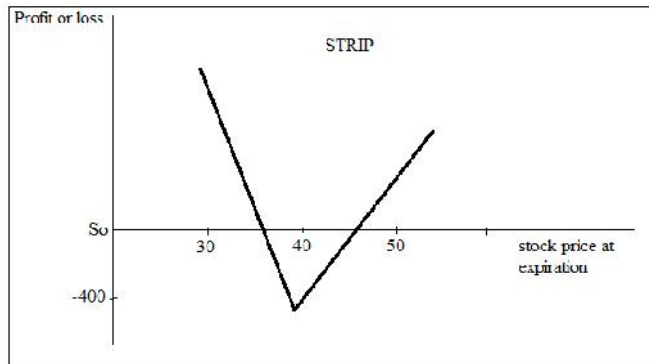
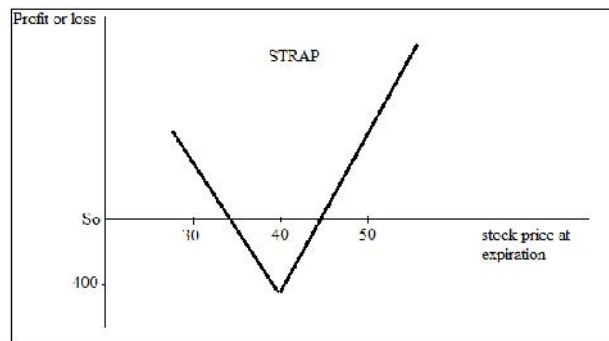


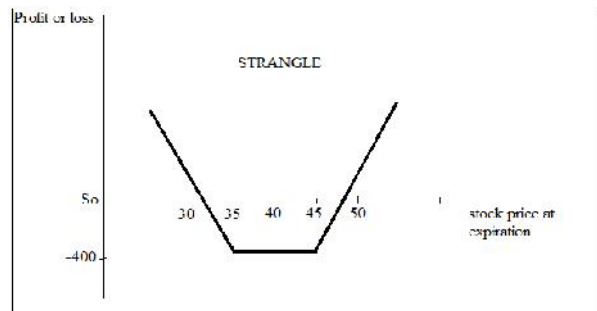
Figure 1.3: Illustration for Straps



STRANGLES

A strangle is constructed buying a call option and a put option with the same expiration date, but with different exercise price. The exercise price of the put is lower than the exercise price of call. It will result profit, if the stock price is lower than the exercise price of a put or if the stock price is higher than the exercise price of call. If the stock price is between none of the options are exercised; hence net loss equal to the premium paid to buy both put and call. This strategy is also called as strangle brought or long strangle.

Figure 1.4: Illustration for Strangle



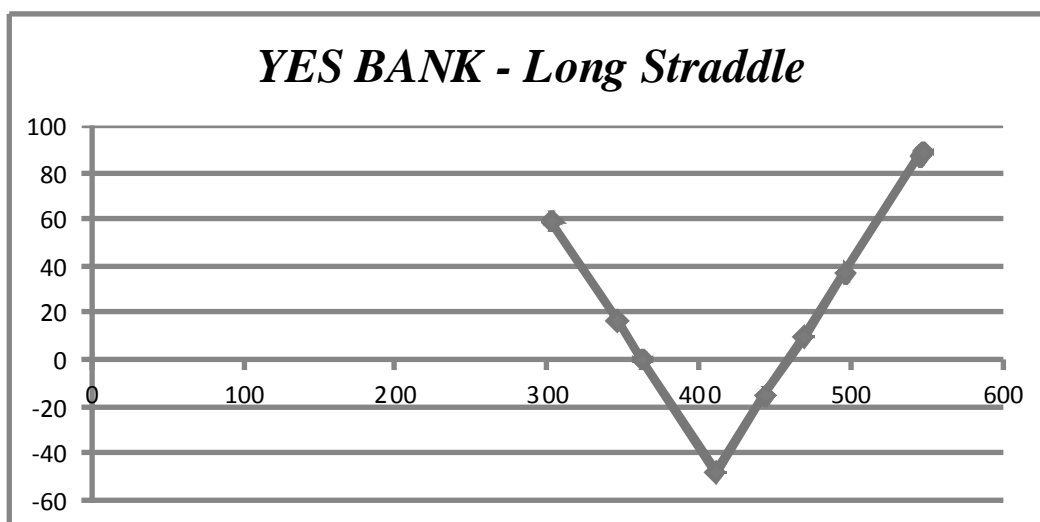
I. CONSTRUCTION OF OPTION COMBINATION FOR YES BANK
1. YES BANK STRADDLE LONG STRADDLE

- Investor's position: Long
- Option type: European stock option
- Strategy: Long Straddle - Buy 1 Call and 1 Put
- Call premium: 22
- Put premium: 26
- Exercise price: 410.25

Table 1: Profit / loss of Long Straddle for Yes Bank

So	Long call So E	Long put E So	Premium Call:22 Put: 26	Net profit
302.75	NE	107.5	(48)	59.5
345.2	NE	65.05	(48)	17.05
362	NE	48.25	(48)	0.25
410.25	0	0	(48)	(48)
443.2	32.95	NE	(48)	(15.05)
468.3	58.05	NE	(48)	10.05
495.47	85.22	NE	(48)	37.22
545.55	135.3	NE	(48)	87.3
547.3	137.05	NE	(48)	89.05

Figure 1.5: Net payoff of Long Straddle for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in straddle option combination strategy in long position. It says that the loss for the investor in long straddle option strategy is limited (48) and the profit is unlimited.

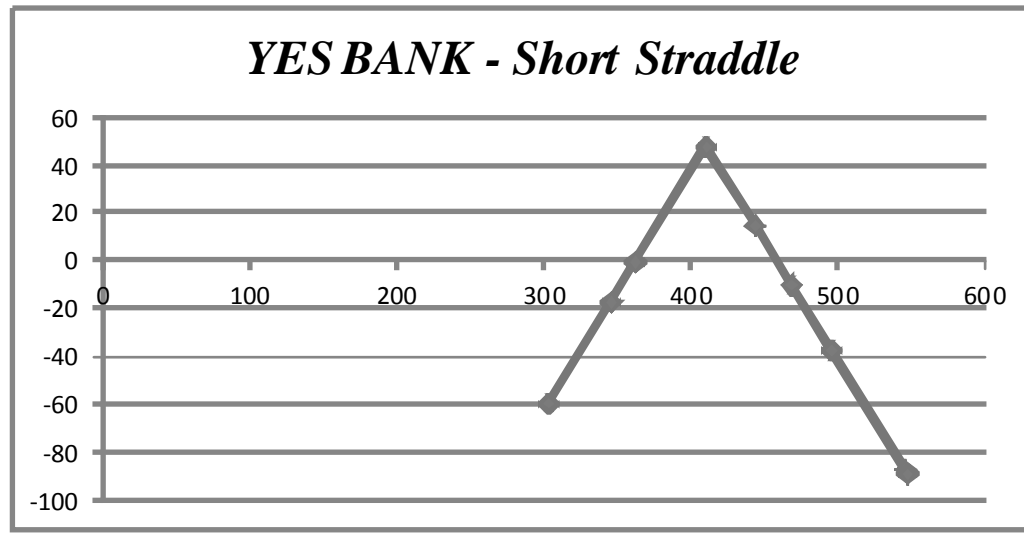
SHORT STRADDLE

- Investor's position: Short
- Option type: European stock option
- Strategy: Short Straddle - Sell 1 Call and 1 Put
- Call premium: 22
- Put premium: 26
- Exercise price: 410.25

Table 2: Profit / loss of Short Straddle for Yes Bank

So	Long call So < E	Long put E > So	Premium Call:22 Put: 26	Net profit
302.75	NE	(107.5)	48	(59.5)
345.2	NE	(65.05)	48	(17.05)
362	NE	(48.25)	48	(0.25)
410.25	0	0	48	48
443.2	(32.95)	NE	48	15.05
468.3	(58.05)	NE	48	(10.05)
495.47	(85.22)	NE	48	(37.22)
545.55	(135.30)	NE	48	(87.3)
547.3	(137.05)	NE	48	(89.05)

Figure 1.6: Net payoff of Short Straddle for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in straddle option combination strategy in short position. It says that the profit for the investor in short straddle option strategy is limited (48) and the loss is unlimited.

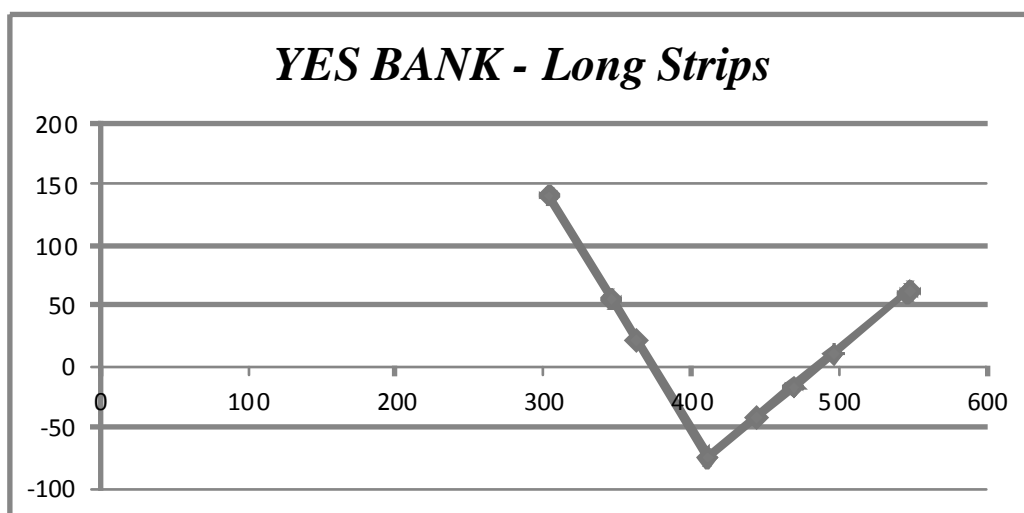
STRIPS: LONG STRIPS

- Investor's position: Long
- Option type: European stock option
- Strategy: Long Strips - Buy 1 Call and 2 Put
- Call premium: 22
- Put premium: 26 x 2
- Exercise price: 410.25

Table 3: Profit / loss of Long Strips for Yes Bank

So	Long call So E	Long put E>So	Premium Call:22 Put: 26*2	Net profit
302.75	NE	215	(74)	141
345.2	NE	130.1	(74)	56.1
362	NE	96.5	(74)	22.5
410.25	0	0	(74)	(74)
443.2	32.95	NE	(74)	(41.05)
468.3	58.05	NE	(74)	(15.95)
495.47	85.22	NE	(74))	11.22
545.55	135.3	NE	(74)	61.3
547.3	137.05	NE	(74)	63.05

Figure 1.7: Net Payoff of Long Strips for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in strips option combination strategy in long position. It says that the loss for the investor in long strips option strategy is limited (74) and the profit is unlimited.

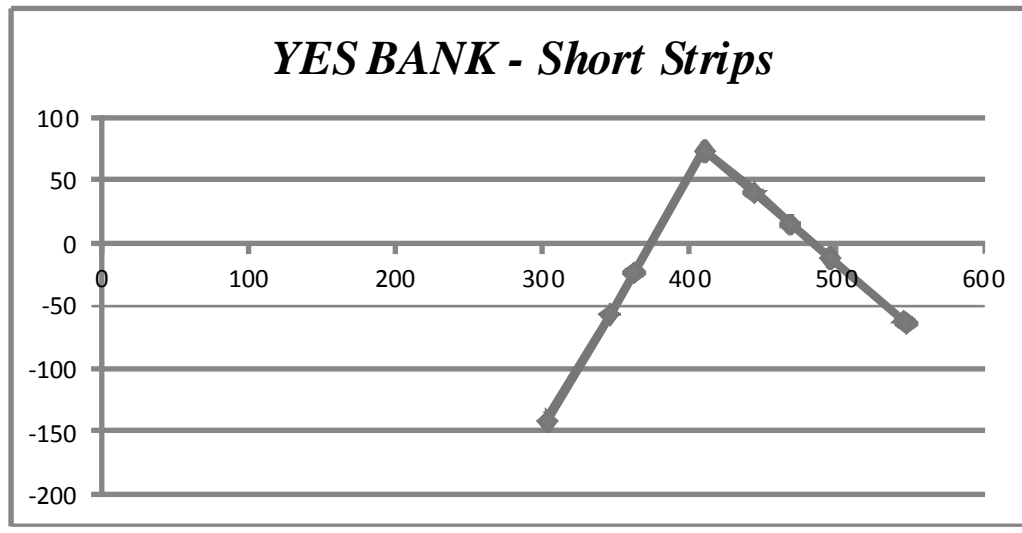
SHORT STRIPS

- Investor's position: Short
- Option type: European stock option
- Strategy: Short Strips - Sell 1 Call and 2 Put
- Call premium: 22
- Put premium: 26 x 2
- Exercise price: 410.25

Table 4: Profit / loss of Short Strips for Yes Bank

So	Long call So E	Long put E>So	Premium Call:22 Put: 26*2	Net profit
302.75	NE	(215)	74	(141)
345.2	NE	(130.1)	74	(56.10)
362	NE	(96.5)	74	(22.50)
410.25	0	0	74	74
443.2	(32.95)	NE	74	41.05
468.3	(58.05)	NE	74	15.95
495.47	(85.22)	NE	74	(11.22)
545.55	(135.30)	NE	74	(61.30)
547.3	(137.05)	NE	74	(63.05)

Figure 1.8: Net Payoff of Short Strips for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in strips option combination strategy in short position. It says that the profit for the investor in short strips option strategy is limited (74) and the loss is unlimited.

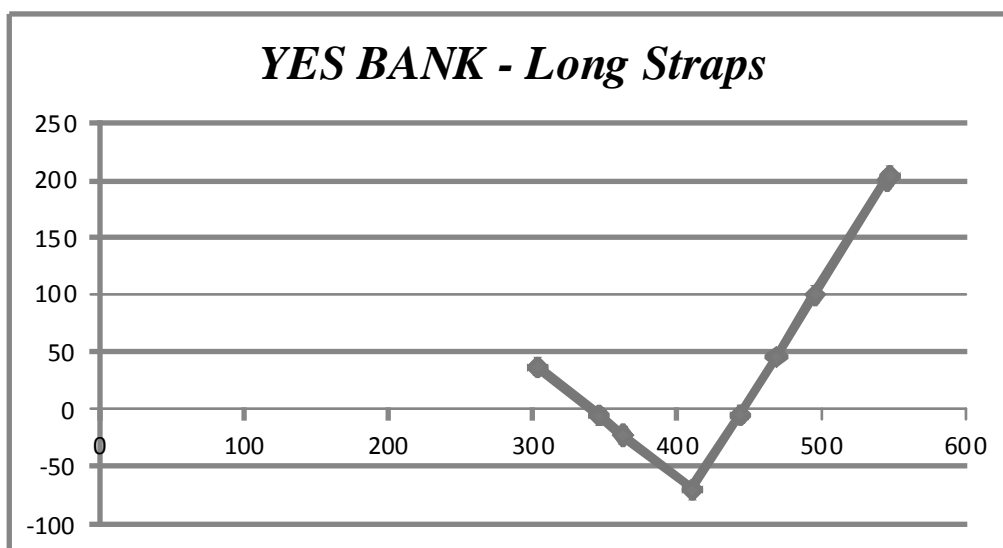
STRAPS : LONG STRAPS

- Investor's position: Long
- Option type: European stock option
- Strategy: Long Straps - Buy 2 Call and 1 Put
- Call premium: 22 x 2
- Put premium: 26
- Exercise price: 410.25

Table 5: Profit / loss of Long Straps for Yes Bank

So	Long call So E	Long put E>So	Premium Call:22*2 Put: 26	Net profit
302.75	NE	107.5	(70)	37.5
345.2	NE	65.05	(70)	(4.95)
362	NE	48.25	(70)	(21.75)
410.25	0	0	(70)	(70)
443.2	65.9	NE	(70)	(4.1)
468.3	116.1	NE	(70)	46.1
495.47	170.44	NE	(70)	100.44
545.55	270.6	NE	(70)	200.6
547.3	274.1	NE	(70)	204.1

Figure 1.9: Net Payoff of Long Straps for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in straps option combination strategy in long position. It says that the loss for the investor in long straps option strategy is limited (70) and the profit is unlimited.

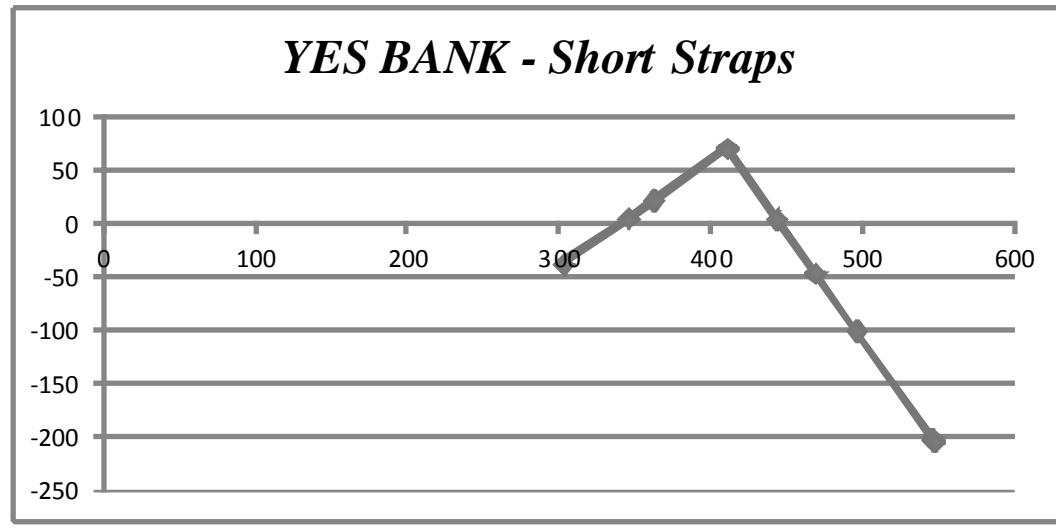
SHORT STRAPS

- Investor's position: Short
- Option type: European stock option
- Strategy: Short Straps - Sell 2 Call and 1 Put
- Call premium: 22 x 2 • Put premium: 26
- Exercise price: 410.25

Table 6: Profit / loss of Short Straps for Yes Bank

So	Long call So E	Long put E>So	Premium Call:22*2 Put: 26	Net profit
302.75	NE	(107.5)	70	(37.5)
345.2	NE	(65.05)	70	4.95
362	NE	(48.25)	70	21.75
410.25	0	0	70	70
443.2	(65.9)	NE	70	4.1
468.3	(116.1)	NE	70	(46.1)
495.47	(170.44)	NE	70	(100.44)
545.55	(270.6)	NE	70	(200.6)
547.3	(274.1)	NE	70	(204.1)

Figure 1.10: Net Payoff of Short Straps for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in straps option combination strategy in short position. It says that the profit for the investor in short straps option strategy is limited (70) and the loss is unlimited.

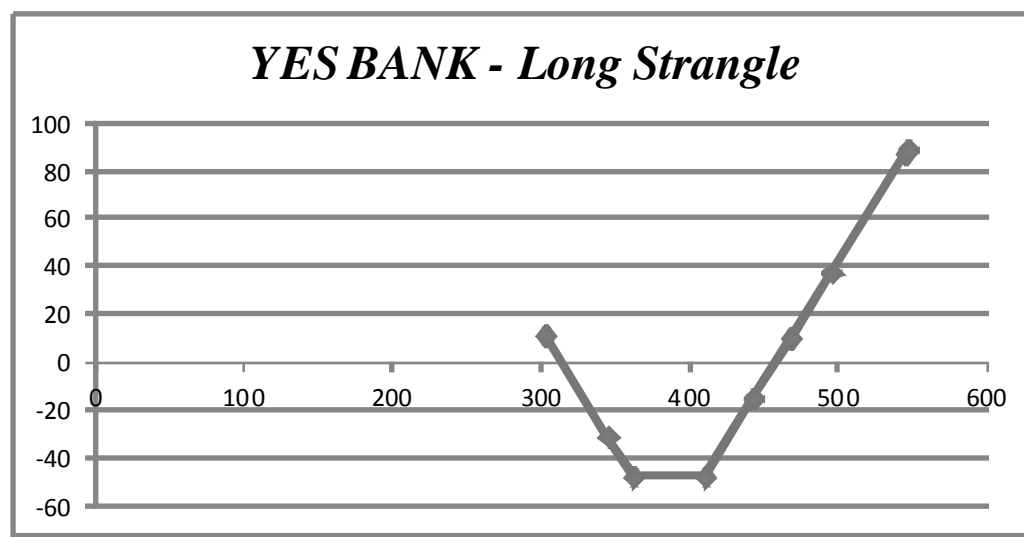
STRANGLE : LONG STRANGLES

- Investor's position: Long
- Option type: European stock option
- Strategy: Long Strangle - Buy 1 Call and 1 Put
- Call premium: 22
- Put premium: 26
- Exercise price for Call: 410.25
- Exercise price for Put: 362

Table 7: Profit / loss of Long Strangle for Yes Bank

So	Long call E:410	Long put E :362	Premium Call:22 Put 26	Net profit
302.75	NE	59.25	(48)	11.25
345.2	NE	16.8	(48)	(31.2)
362	NE	0	(48)	(48)
410.25	0	NE	(48)	(48)
443.2	32.95	NE	(48)	(15.05)
468.3	58.05	NE	(48)	10.05
495.47	85.22	NE	(48)	37.22
545.55	135.3	NE	(48)	87.3
547.3	137.05	NE	(48)	89.05

Figure 1.11: Net Payoff of Long Strangle for Yes Bank



INTERPRETATION: The above graph shows the net profit for the investor in strangle option combination strategy in long position. It says that the loss for the investor in long strangle option strategy is limited (48) and the profit is unlimited.

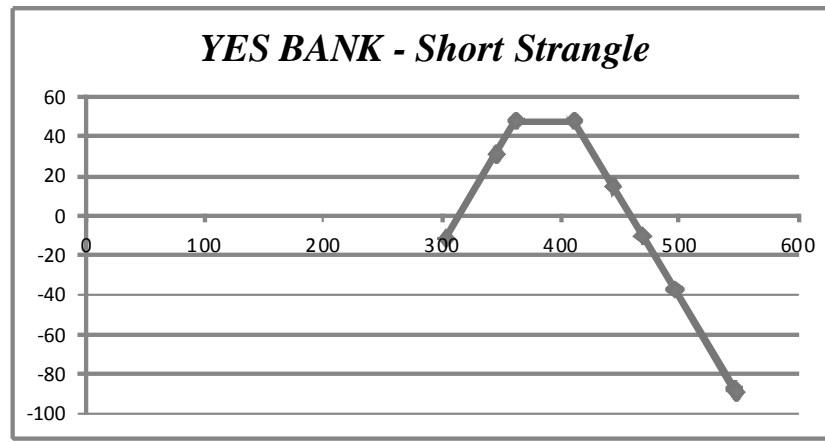
SHORT STRANGLES

- Investor's position: Short

- Option type: European stock option
- Strategy: Short Strangle - Sell 1 Call and 1 Put
- Call premium: 22
- Put premium: 26
- Exercise price for Call: 410.25
- Exercise price for Put: 362

Table 8: Profit / loss of Short Strangle for Yes Bank

So	Long call E:410	Long put E :362	Premium Call:22 Put 26	Net profit
302.75	NE	(59.25)	48	(11.25)
345.2	NE	(16.8)	48	31.2
362	NE	0	48	48
410.25	0	NE	48	48
443.2	(32.95)	NE	48	15.05
468.3	(58.05)	NE	48	(10.05)
495.47	(85.22)	NE	48	(37.22)
545.55	(135.3)	NE	48	(87.3)
547.3	(137.05)	NE	48	(89.05)

Figure 1.12: Net Payoff of Short Strangle for Yes Bank

INTERPRETATION: The above graph shows the net profit for the investor in strangle option combination strategy in short position. It says that the profit for the investor in short strangle option strategy is limited (48) and the loss is unlimited.

SUGGESTIONS AND RECOMMENDATIONS

- The study carried out was for speculators who take positions in the market. They actually bet on the direction of price movements, while profits could be extremely high, potential for losses are also large.
- In India many do not know how to trade in the option derivative market, and this study can be extended to develop an idea that describes how the options are traded.
- The same study can be extended to any number of stocks to know the pay offs for different option strategies and hence invest in the strategy that would yield high returns.
- The study is made for both increasing and decreasing stock prices. In both cases we came to know that in options market long position will give high returns for speculators.

CONCLUSION

Investing in stock options market is always associated with a risk factor which may be low or high and has got no exact predictions that would work out. This makes the investor to stay away

from investing in options. The study made shown that it is easier to make profits in options market. The only thing that the investor should be aware of is that which position he should take based on the market conditions. From the study made we can say that it is the long position in the market which gives the investor always profits and if losses are there it will be always the minimum. And investor need not to be worried about the increasing or decreasing prices of stock, as we came to know from the study in both cases the investor would make the profit in long position. Though the study concentrates on only two stocks, it can be suggested or referred for any other securities also and thus the study is useful for the speculators and also organisational investors for reference for investing in option combinations.

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