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REVIEW ARTICLE

A STUDY ON STRAP OPTION COMBINATION STRATEGY

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ABSTRACT

Options are considered risky for investors and speculators due to fluctuation in the direction of price movements. An investor has to face the risk of profits where it may be extremely high or loss, here investors fail in choosing profitable options. The study is made to minimize the risk of investors by using straps option combination strategy in choosing profitable investment strategy and to know how the option combination strategy would be profitable when market moves up or down. The study has considered the securities of both increasing and decreasing prices, so that it would be possible to give suggestions for investors that how in both cases they can make profits.

INTRODUCTION

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. The study is particularly on the combination strategy “straps”.

STRAPS

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. In options market when an investor signs a contract, on the expiration date if the option signed is a call option, he will exercise the contract if the current market price of the underlying asset is more than the strike price of the contract and he will make profits and if the current market price of the underlying asset is less than the strike price then he will not exercise the contract and he will make losses. Similarly on the expiration date if the option signed is a put option, he will exercise the contract if the current market price of the underlying asset is less than the strike price of the contract and he will make profits and if the current market price of the underlying asset is more than the strike price then he will exercise the contract and he will incur losses. So in both cases the profit and losses are unlimited and this is the high risk

factor for any investor that he cannot forecast that whether he will make profits or losses. Here comes the benefit of using combinations of options such as ‘straps’. When investor uses straps in his options contract he will either exercise both call & put or he won’t exercise both the options. This enables the investor to incur the minimum loss that is what the premium he paid for the contract and his profits will be the maximum always and also the profit will keep on increasing as the underlying asset value increases since the combination has two call options. The below shown diagram shows the illustration of profits in case of straps option combination. Here we can see that the profit decreases in the beginning for lower values of underlying assets but it always has a limited value and once it reaches that level and the asset value keep increasing the profit also increases but do not have any limited value and thus investor can make unlimited profits.

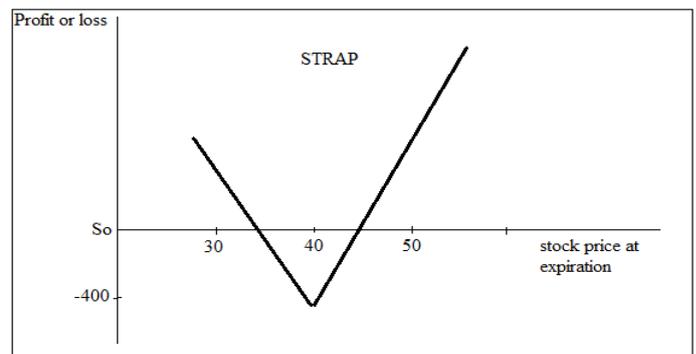


Figure 1. Illustration of Strap

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In this study the stock index options are considered. In India the stock index options are the European options. A European option contract may be exercised only on the contract expiration date (if the option is exercised by the holder). The expiration date and the exercise date must, therefore be the same. In India expect stock options rests of the options are American type of options. The time period of the options contracts assumed for the study is three months and the option will be exercised on the last day. And the benefit illustration for the investor is made by assuming the future market price of the securities on the expiration date and the price of the options are taken on the day when the contract is signed that is the first day of three month time period.

I. Construction of straps for selected banking sector

1. Yes bank:

Long straps

- Investor’s position: Long
- Option type: European stock option
- Strategy: Long Straps – Buy 2 Call and 1 Put
- Call price: 27
- Put price: 34
- Net premium: $(2 \times -27) + (-34) = -88$

Table 1.1. Net payoff of long straps for Yes bank

S ₀ (possible prices)	E(exercise price)	P(net premium)	Long call payoff	Long put payoff	Net payoff
302.75	443.2	-88	NE	140.45	52.45
345.2	443.2	-88	NE	98	10
362	443.2	-88	NE	81.2	-6.8
410.35	443.2	-88	NE	32.85	-55.15
443.2	443.2	-88	0	0	-88
468.4	443.2	-88	50.4	NE	-37.6
495.47	443.2	-88	104.54	NE	16.54
545.55	443.2	-88	204.7	NE	116.7
547.3	443.2	-88	208.2	NE	120.2

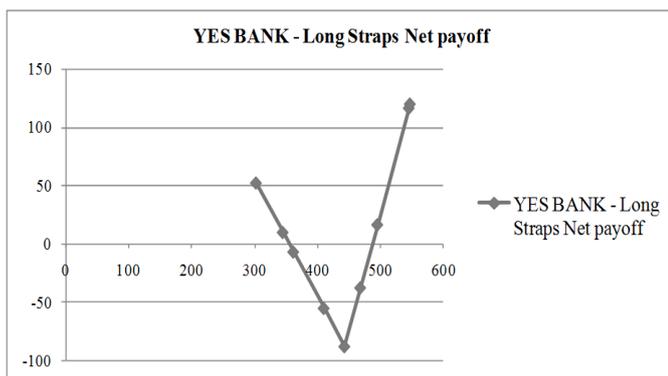


Figure 1.1. Net payoff of long straps for Yes bank

Interpretation: The above graph shows the net profit for the investor in straps option combination strategy in long position for the stocks of ‘Yes bank’. It says that the loss for the investor in long straps option strategy is limited (-88) 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 price: 27
- Put price: 34
- Net premium: $(2 \times 27) + 34 = 88$

Table 1.2. Net payoff of short straps for Yes bank

S ₀ (possible prices)	E(exercise price)	P(net premium)	Short call payoff	Short put payoff	Net payoff
302.75	443.2	88	NE	-140.45	-52.45
345.2	443.2	88	NE	-98	-10
362	443.2	88	NE	-81.2	6.8
410.35	443.2	88	NE	-32.85	55.15
443.2	443.2	88	0	0	88
468.4	443.2	88	-50.4	NE	37.6
495.47	443.2	88	-104.54	NE	-16.54
545.55	443.2	88	-204.7	NE	-116.7
547.3	443.2	88	-208.2	NE	-120.2

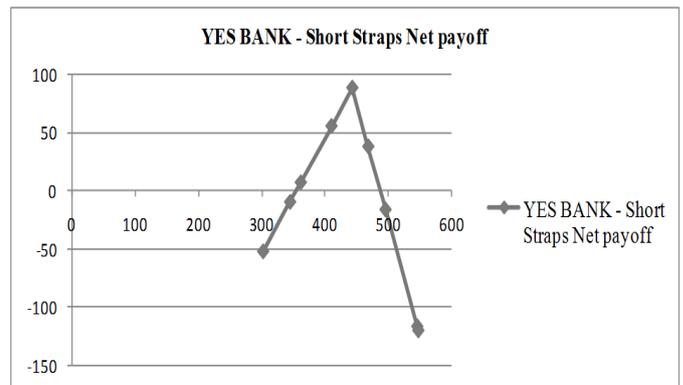


Figure 1.2. Net payoff of short straps for Yes bank

Interpretation: The above graph shows the net profit for the investor in straps option combination strategy in short position for the stocks of ‘Yes bank’. It says that the profit for the investor in short straps option strategy is limited (88) and the loss is unlimited.

II. Automobile sector

1. Tata motors:

Long straps

- Investor’s position: Long
- Option type: European stock option
- Strategy: Long Straps – Buy 2 Call and 1 Put
- Call price: 22
- Put price: 25
- Net premium: $(2 \times -22) + (-25) = -69$

Interpretation: The above graph shows the net profit for the investor in straps option combination strategy in long position for the stocks of ‘Tata motors’. It says that the loss for the

investor in long straps option strategy is limited (-69) and the profit is unlimited.

Table 1.3. Net payoff of long straps for Tata motors

S ₀ (possible prices)	E (exercise price)	P (net premium)	Long call payoff	Long put payoff	Net payoff
387.3	423.6	-69	NE	36.3	-32.7
388.85	423.6	-69	NE	34.75	-34.25
389	423.6	-69	NE	34.6	-34.4
403.15	423.6	-69	NE	20.45	-48.55
423.6	423.6	-69	0	0	-69
430.1	423.6	-69	13	NE	-56
436.7	423.6	-69	26.2	NE	-42.8
449.85	423.6	-69	52.5	NE	-16.5
456.6	423.6	-69	66	NE	-3

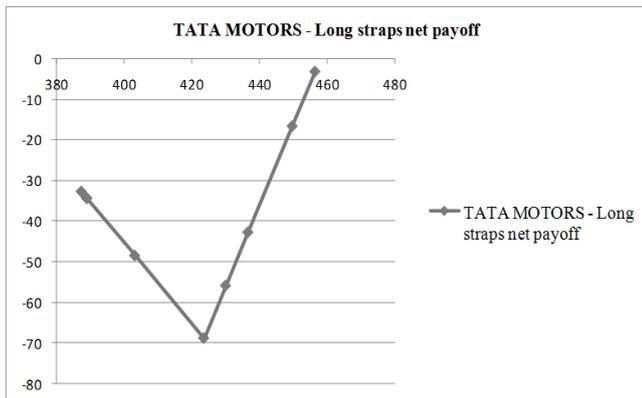


Figure 1.3. Net payoff of long straps for Tata motors

Short straps

- Investor’s position: Short
- Option type: European stock option
- Strategy: Short Straps – Sell 2 Call and 1 Put
- Call price: 22
- Put price: 25
- Net premium: $(2*22) + (25) = 69$

Table 1.4. Net payoff of short straps for Tata motors

S ₀ (possible prices)	E (exercise price)	P (net premium)	Short call payoff	Short put payoff	Net payoff
387.3	423.6	69	NE	-36.3	32.7
388.85	423.6	69	NE	-34.75	34.25
389	423.6	69	NE	-34.6	34.4
403.15	423.6	69	NE	-20.45	48.55
423.6	423.6	69	0	0	69
430.1	423.6	69	-13	NE	56
436.7	423.6	69	-26.2	NE	42.8
449.85	423.6	69	-52.5	NE	16.5
456.6	423.6	69	-66	NE	3

Interpretation: The above graph shows the net profit for the investor in straps option combination strategy in short position for the stocks of ‘Tata motors’. It says that the profit for the investor in short straps option strategy is limited (69) and the loss is unlimited.

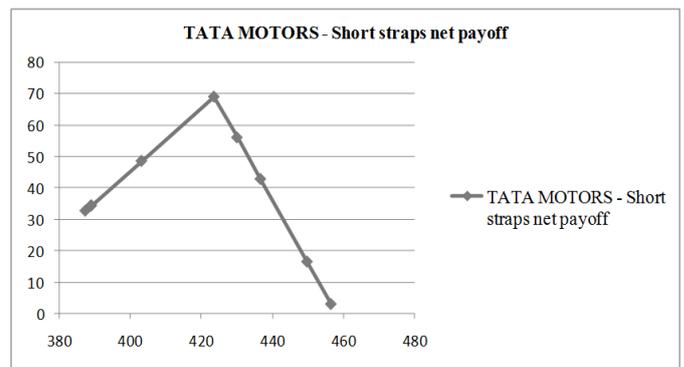


Figure 1.4. Net payoff of short straps for Tata motors

III. IT Sector

1. Infosys:

- Investor’s position: Long
- Option type: European stock option
- Strategy: Long Straps – Buy 2 Call and 1 Put
- Call price: 26
- Put price: 32
- Net premium: $(2*-26) + (-32) = -84$

Table 1.5. Net payoff of long straps for Infosys

S ₀ (possible prices)	E (exercise price)	P (net premium)	Long call payoff	Long put payoff	Net payoff
3798.25	3235.15	-84	1126.2	NE	1042.2
3671.3	3235.15	-84	872.3	NE	788.3
3296.05	3235.15	-84	121.8	NE	37.8
3263.9	3235.15	-84	57.5	NE	-26.5
3235.15	3235.15	-84	0	0	-84
3175.6	3235.15	-84	NE	59.55	-24.45
3067.35	3235.15	-84	NE	167.8	83.8
3053.2	3235.15	-84	NE	181.95	97.95
3050.9	3235.15	-84	NE	184.25	100.25

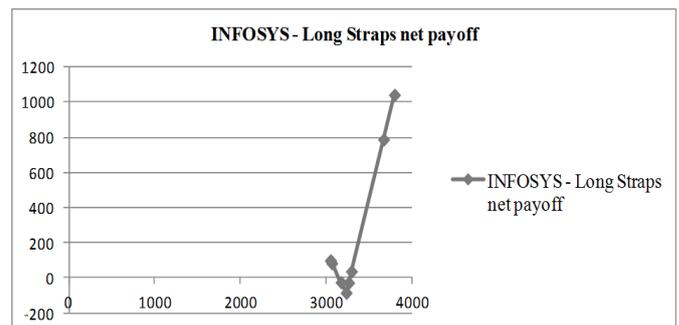


Figure 1.5. Net payoff of long straps for Infosys

Interpretation: The above graph shows the net profit for the investor in straps option combination strategy in long position for the stocks of ‘Infosys’. It says that the loss for the investor in long straps option strategy is limited (-84) and the profit is unlimited.

Short position

- Investor’s position: Short
- Option type: European stock option

- Strategy: Short Straps – Sell 2 Call and 1 Put
- Call price: 26
- Put price: 32
- Net premium: $(2 \times 26) + (32) = 84$

Table 1.6. Net payoff of short straps for Infosys

S ₀ (possible prices)	E (exercise price)	P (net premium)	Short call payoff	Short put payoff	Net payoff
3798.25	3235.15	84	-1126.2	NE	-1042.2
3671.3	3235.15	84	-872.3	NE	-788.3
3296.05	3235.15	84	-121.8	NE	-37.8
3263.9	3235.15	84	-57.5	NE	26.5
3235.15	3235.15	84	0	0	84
3175.6	3235.15	84	NE	-59.55	24.45
3067.35	3235.15	84	NE	-167.8	-83.8
3053.2	3235.15	84	NE	-181.95	-97.95
3050.9	3235.15	84	NE	-184.25	-100.25

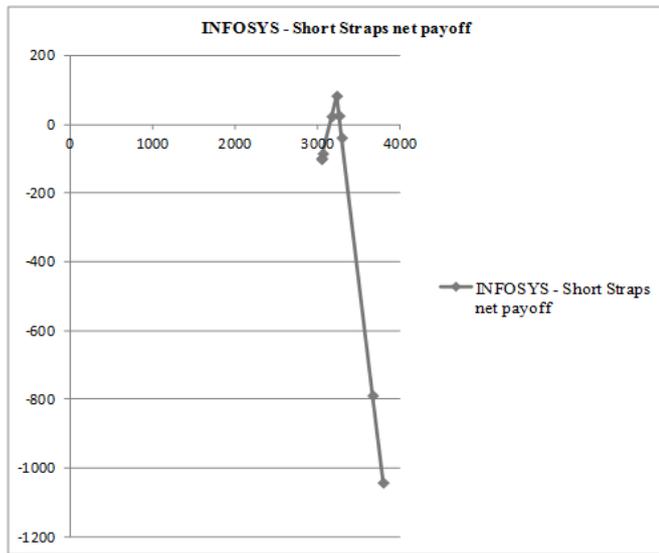


Figure 1.6. Net payoff of short straps for Infosys

Interpretation: The above graph shows the net profit for the investor in straps option combination strategy in short position for the stocks of ‘Infosys’. It says that the profit for the investor in short straps option strategy is limited (84) and the loss is unlimited.

Compilation of the Result

Table 2.1. LONG STRAP and SHORT STRAP

Company Name	Straps position	Profit	Loss
Banking Sector			
Yes bank	Long straps	Unlimited profit	Limited loss of 88
	Short straps	Limited profit of 88	Unlimited loss
Automobile Sector			
Tata motors	Long straps	Unlimited profit	Limited loss of 69
	Short straps	Limited profit of 69	Unlimited loss
IT Sector			
Infosys	Long straps	Unlimited profit	Limited loss of 84
	Short straps	Limited profit of 84	Unlimited loss

Suggestions and Recommendations

- From the study it is found that an investor can manage his profit and losses in option combinations by taking appropriate position in the market.
- It is found that it is the ‘long’ position in the market which always gives the investor minimum loss and maximum profits possible.
- Yes bank gave minimum loss of 88 and unlimited profits.
- Tata motors gave minimum loss of 69 and unlimited profits.

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 four industrial sectors, it can be suggested or referred for any other sectors also and thus the study is useful for the speculators and also organizational investors for reference for investing in option combinations

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