Research Article

Unleashing the Power of Options: Profitable Strategies for Nifty Fifty Index Trading

T S leelavati[1], S.Madhavi[2], K.Susmitha[3]

[1,3] Assistant Professor,Seshadrirao Gudlavalleru Engineering college.

[2]Associate Professor,Seshadrirao Gudlavalleru Engineering college.

INFO

ABSTRACT

A derivative is a contract between two or more parties whose value is based on an agreed-upon underlying financial asset (like a security) or set of assets (like an index). These financial securities are commonly used to access certain markets and may be traded to hedge against risk. In the investment world, there is an investment instrument called option which gives the investor the choice of investment if the investment instrument goes up by buying call option or if its investment instrument dropped by buying a put option. So investors ignore the rise or fall of underlying assets but rather focus on whether the volatility of the underlying assets has high or low volatility. The long straddle position strategy indicates that the buyer calls and puts simultaneously at the same exercise price and time period. This means the buyer believes that there will be greater volatility of historical volatility in the investment instrument regardless of the rise or fall of the investment instrument. The present study focuses on the trading of straddles using options. The straddle is purchased when the forecast is positive and sold when negative. Authors considered Nifty Fifty Index as an example, while calculating option strategies.

Keywords: Call Buyer, Call Seller, Put Buyer, Put Seller, Long Straddle, Short Straddle.

Introduction

A derivative is a financial instrument whose value depends on other, more basic, underlying variables. The valuable underlying could be prices of traded securities and stocks, prices of gold or copper. Derivatives have increasingly important field of finance, options and futures are traded actively on many exchanges, Forward contacts, Swap and different types of options are regularly traded outside exchanges by financial institutions, Banks and their corporate clients in what are termed as over the counter markets. In other words, there no single market place organized exchanges. A derivative security is a security whose value depends on the value of together more basic underlying variable. These are also known as contingent claims. Derivatives securities have been very successful in innovation in capital markets.

Literature Review

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 known in which direction the move will be. A straddle buyer buys a call and a put option and the

27

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

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.

Objectives of the Study

- To study the derivative market in India.
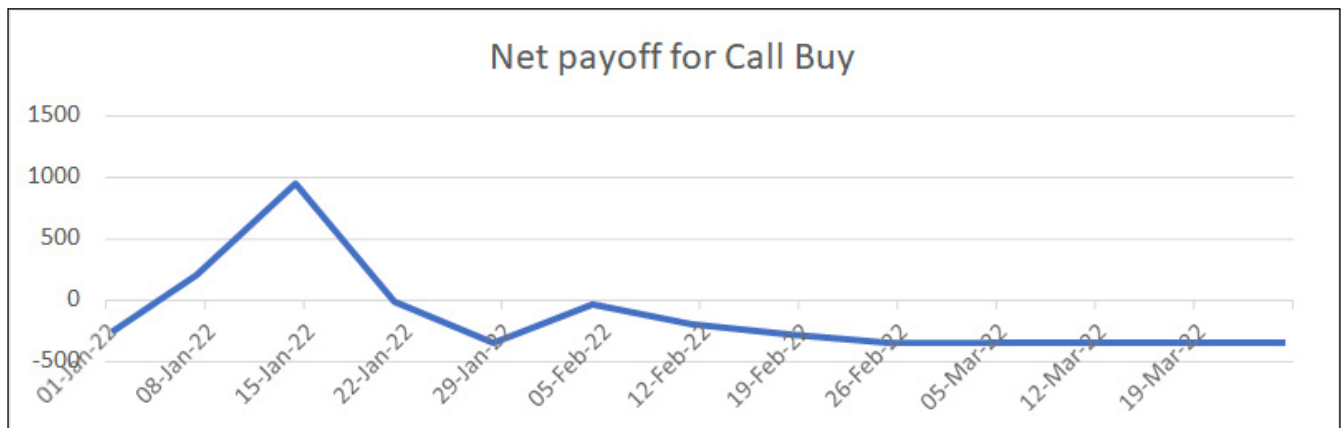- To understand the trading mechanism of derivative products in India.

- To know the derivative market performance by considering Nifty Fifty.
- To analyze the payoff of derivative products by using options strategies.
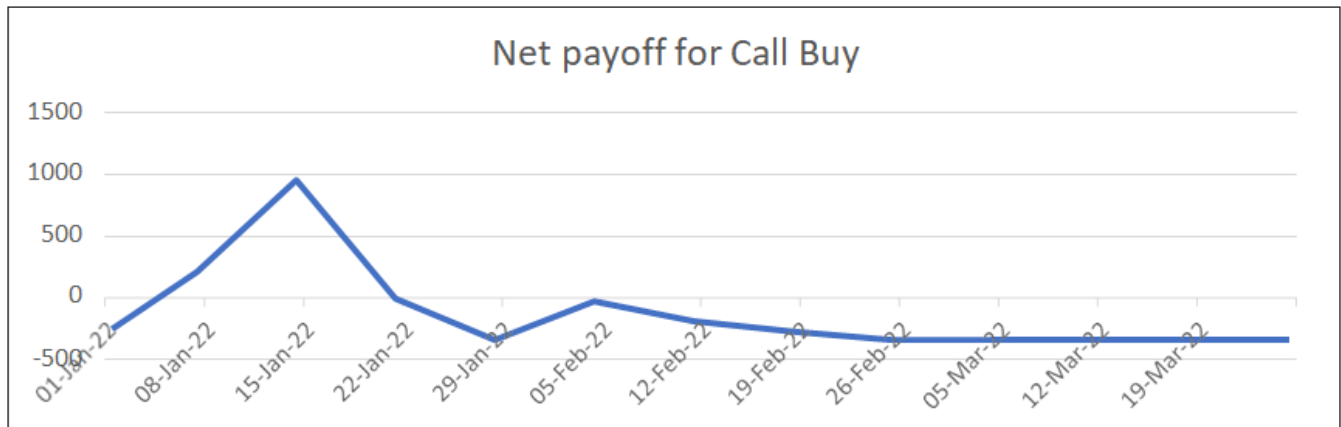
Analysis

If the investor buys Nifty Fifty index call buy option or long call at a strike price of Rs17150 with a premium of Rs.350 on 1st January 2022 with the close price of Rs.17238. So the payoff for the January to march of 2022 year when share price changes are as follows.

Table 1.Represents Data of Nifty Fifty for Holder of Call Option for the January - March of 2022 year

Date	Close Price	Expiry Date	Call Buy Strike Price	Premium	Net payoff for Call Buy
01-Jan-22	17238.5	06-Jan-22	17150	350	-261.5
07-Jan-22	17704.55	13-Jan-22	17150	350	204.55
14-Jan-22	18449.65	20-Jan-22	17150	350	949.65
21-Jan-22	17485.85	27-Jan-22	17150	350	-14.15
28-Jan-22	17077.1	03-Feb-22	17150	350	-350
04-Feb-22	17462.55	10-Feb-22	17150	350	-37.45
11-Feb-22	17303	17-Feb-22	17150	350	-197
18-Feb-22	17219.2	24-Feb-22	17150	350	-280.8
25-Feb-22	16478.3	03-Mar-22	17150	350	-350
04-Mar-22	16133.8	10-Mar-22	17150	350	-350
11-Mar-22	16470.9	24-Mar-22	17150	350	-350
25-Mar-22	17076.55	31-Mar-22	17150	350	-350

Graph 1.Represents Payoff for the holder of Call Option of Nifty Fifty from January – March of 2022 Year

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

28

Graph 2. Represents Close Price for the holder of Call Option of Nifty Fifty from January – March of 2022 Year

Interpretation

It is observed from the above table no.1 that, in case of one year Nifty Fifty Index call option holder contract from 1st January 2022 to 31st March 2022, the trader ends up with profit on index call option as the open market spot price on the date of execution is more than the strike price of the contract. In this case the maximum profits that arises to the call option buyer is unlimited to the extent of premium paid i.e., 350.

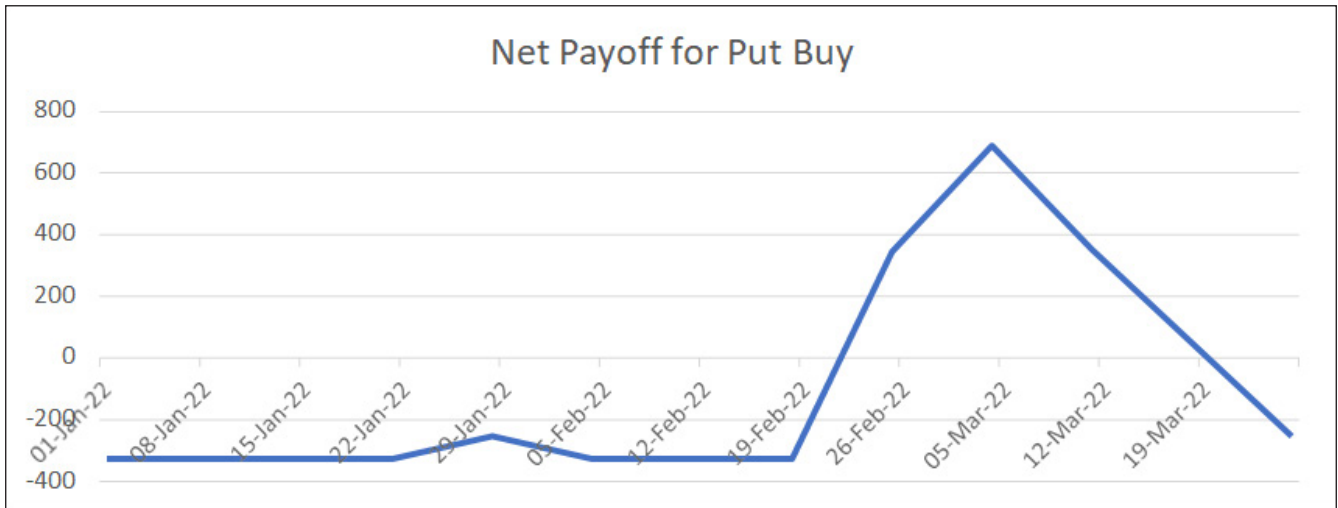Therefore, it is evident from the study that if the open market spot price is 17500, the option holder will be in no loss/ profit position. If the open market price increases by 1unit from 17500, then the trader profitability increases by 1.

Break Even Point   = Strike Price + Premium

                              =   17,150   +   350

                              =   17,500

If the investor Buys the Put Option of Nifty Fifty index on 1st January with a strike price of Rs.17150 and pays premium of Rs.330. The stock price on starting date is Rs.17238. Then the Payoff when the stock price changes on the year of January to March 2022 year is as follows.

Table 2. Represents Data of Nifty Fifty for Holder of Put Option for the January - March of 2022 year

Date	Close Price	Expiry Date	Put BuyStrike Price	Premium	Net Payoff for Put Buy
01-Jan-22	17238.5	06-Jan-22	17150	330	-330
07-Jan-22	17704.55	13-Jan-22	17150	330	-330
14-Jan-22	18449.65	20-Jan-22	17150	330	-330
21-Jan-22	17485.85	27-Jan-22	17150	330	-330
28-Jan-22	17077.1	03-Feb-22	17150	330	-257.1
04-Feb-22	17462.55	10-Feb-22	17150	330	-330
11-Feb-22	17303	17-Feb-22	17150	330	-330
18-Feb-22	17219.2	24-Feb-22	17150	330	-330
25-Feb-22	16478.3	03-Mar-22	17150	330	341.7
04-Mar-22	16133.8	10-Mar-22	17150	330	686.2
11-Mar-22	16470.9	24-Mar-22	17150	330	349.1
25-Mar-22	17076.55	31-Mar-22	17150	330	-256.55

29

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

Graph 3.Represents Payoff for the holder of Put Option of Nifty Fifty from January – March of 2022 Year

Graph 4.Represents Close Price for the holder of Put Option of Nifty Fifty from January – March of 2022 Year

Interpretation

It is observed from the above table, in case of year of Nifty Fifty Index Put option contract from 1st January 2022 to 31st March 2022, the trader ends up with loss on index put option as the open market spot price on the date of execution is less than the strike price of the contract. In this case the maximum loss that arises to the Put option buyer is limited to the extent of premium paid i.e., 330.

Therefore, it is evident from the study that if the open market spot price is 16820, the option holder will be in no loss/profit position. If the open market price decreases by 1unit from 16820, then the trader profitability increases by 1.
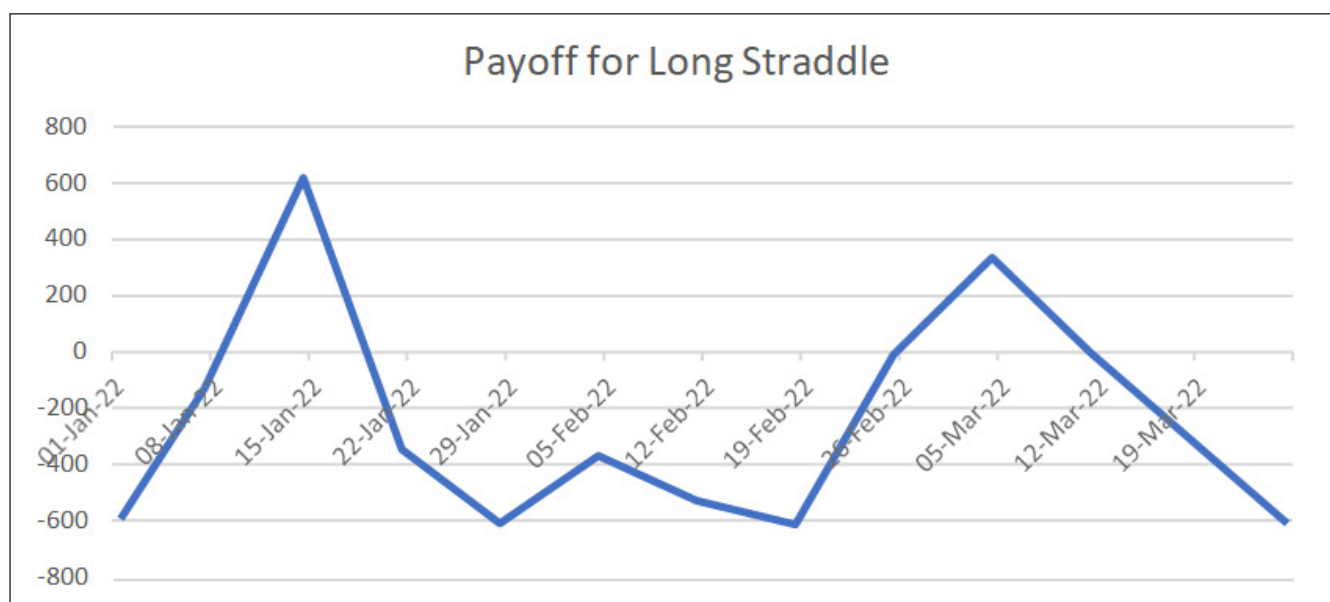
$$\text{Break Even Point} = \text{Strike Price - Premium}$$
$$= 17150 - 330$$
$$= 16,820$$

Table 3: Represents the Payoffs of Long Straddle Strategy of Nifty Fifty from January – March of 2022 Year.

If the investor does a long straddle strategy i.e., it involves both calls buy and put buy of NIFTY FIFTY index on 1st January, 2022 with a strike price of Rs. 17150 and pays premium of Rs.350 on call buy and a premium of Rs.330 on put buy. The stock price on starting date is Rs.17238. Then the Payoff when the stock price changes on the year of January to March 2022 year is as follows.

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

30

Table 3.Represents the Payoffs of Long Straddle Strategy of Nifty Fifty from January – March of 2022 Year

Date	Close Price	Net pay off for Call Buy	Net Payoff forPut Buy	Payoff for Long Straddle
01-Jan-22	17238.5	-261.5	-330	-591.5
07-Jan-22	17704.55	204.55	-330	-125.45
14-Jan-22	18449.65	949.65	-330	619.65
21-Jan-22	17485.85	-14.15	-330	-344.15
28-Jan-22	17077.1	-350	-257.1	-607.1
04-Feb-22	17462.55	-37.45	-330	-367.45
11-Feb-22	17303	-197	-330	-527
18-Feb-22	17219.2	-280.8	-330	-610.8
25-Feb-22	16478.3	-350	341.7	-8.3
04-Mar-22	16133.8	-350	686.2	336.2
11-Mar-22	16470.9	-350	349.1	-0.9
25-Mar-22	17076.55	-350	-256.55	-606.55

Graph 5.Represents data of payoffs of Nifty Fifty Long straddle for 2022 Year

Interpretation

Upper Breakeven Point = Long Call Strike Price + Net Premium

$$= 17150 + 680$$

$$= 17,830$$

Lower Breakeven Point = Long Put Strike Price – Net Premium
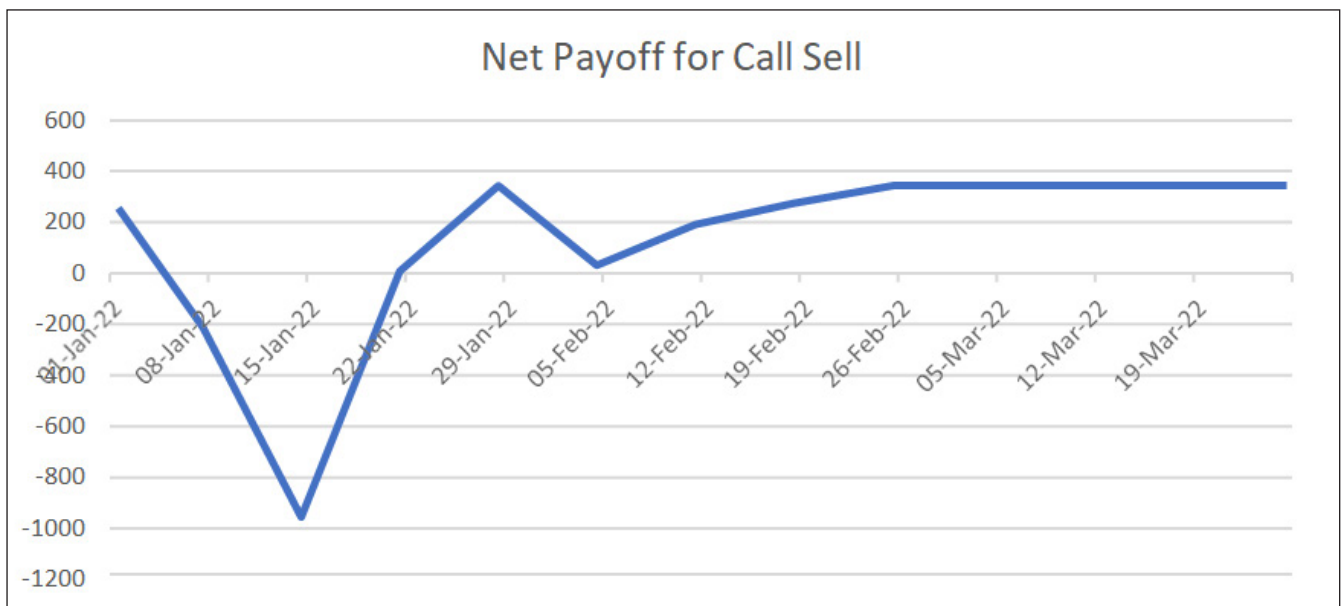
$$= 17150 – 680$$

$$= 16,470$$

From the above table, it has been showed that from 1st January to 31st March 2022, he gets losses due to Nifty Fifty Option is below Rs.17830, within the time he gets a maximum loss of Rs.59.15 on 1st January, that is amount paid as premium. He gets profits if Nifty Fifty option price is in increasing trend and that is equal or above 17,830. He is getting any profits in Long straddle and payoffs for long straddle are in positive trend.

If the investor sells Nifty Fifty index writer of call option at a strike price of Rs.17150 and with a premium of Rs.350 on 1st January 2022 with the close price of 17238. So, the payoff for the month of January to March, when share price changes is as follows.

31

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

Table 4.Represents Data of Nifty Fifty Writer of Call Option from January – March Month of 2022 Year

Date	Close Price	Expiry Date	Call Sell StrikePrice	Premium	Net Payoff forCall Sell
01-Jan-22	17238.5	06-Jan-22	17150	350	261.5
07-Jan-22	17704.55	13-Jan-22	17150	350	-204.55
14-Jan-22	18449.65	20-Jan-22	17150	350	-949.65
21-Jan-22	17485.85	27-Jan-22	17150	350	14.15
28-Jan-22	17077.1	03-Feb-22	17150	350	350
04-Feb-22	17462.55	10-Feb-22	17150	350	37.45
11-Feb-22	17303	17-Feb-22	17150	350	197
18-Feb-22	17219.2	24-Feb-22	17150	350	280.8
25-Feb-22	16478.3	03-Mar-22	17150	350	350
04-Mar-22	16133.8	10-Mar-22	17150	350	350
11-Mar-22	16470.9	24-Mar-22	17150	350	350
25-Mar-22	17076.55	31-Mar-22	17150	350	350

Graph 6.Represents the payoff for the writer of call option of Nifty Fifty from Jan – Mar of 2022 year

Interpretation

It is observed from the above table, in case of Nifty Fifty Index call option writer contract from 1st January 2022 to 31st March 2022, the trader ends up with gain on index call option as the open market spot price on the date of execution is greater than the strike price of the contract. In this case the maximum gain that arises to the call option seller is limited to the extent of premium paid which is 350.

Therefore, it is evident from the study that if the open market spot price is 17500, the option writer will be in no loss/ profit position. If the open market price decreases by 1unit from 17500, then the trader profitability increases by 1.
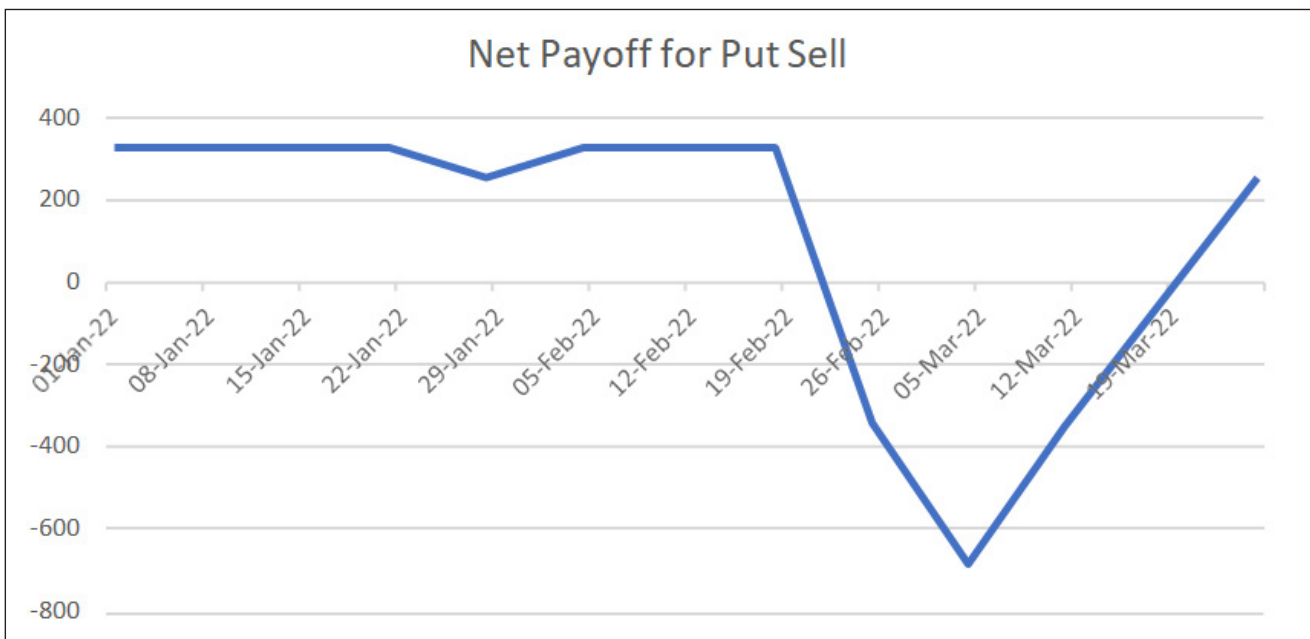
Break Even Point = Strike price + Premium

= 17150 + 350

= 17500

If the investor sells Nifty Fifty index writer of Put option at a strike price of Rs.17238 and with a premium of Rs.330 on 1st January 2022 with the close price of 17238. So, the payoff for the month of January to March, when share price changes is as follows.

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

32

Table 5.Represents Data of Nifty Fifty Writer of Put Option from January – March Month of 2022Year

Date	Close Price	Expiry Date	Put Sell Strike Price	Premium	Net Pay off for Put Sell
01-Jan-22	17238.5	06-Jan-22	17150	330	330
07-Jan-22	17704.55	13-Jan-22	17150	330	330
14-Jan-22	18449.65	20-Jan-22	17150	330	330
21-Jan-22	17485.85	27-Jan-22	17150	330	330
28-Jan-22	17077.1	03-Feb-22	17150	330	257.1
04-Feb-22	17462.55	10-Feb-22	17150	330	330
11-Feb-22	17303	17-Feb-22	17150	330	330
18-Feb-22	17219.2	24-Feb-22	17150	330	330
25-Feb-22	16478.3	03-Mar-22	17150	330	-341.7
04-Mar-22	16133.8	10-Mar-22	17150	330	-686.2
11-Mar-22	16470.9	24-Mar-22	17150	330	-349.1
25-Mar-22	17076.55	31-Mar-22	17150	330	256.55

Graph 7.Represents the payoff for the writer of call option of Nifty Fifty from Jan – Mar of 2022 year

Interpretation

It is observed from the above table, in case of Nifty Fifty Index Put option writer contract from 1st January 2022 to 31st March 2022, the trader ends up with gain on index Put option as the open market spot price on the date of execution is lesser than the strike price of the contract. In this case the maximum gain that arises to the Put option seller is limited to the extent of premium paid which is 330.

Therefore, it is evident from the study that if the open market spot price is 16820, the option writer will be in no loss/profit position. If the open market price decreases by 1unit from 16820, then the trader profitability increases by 1.

Break Even Point = Strike price - Premium
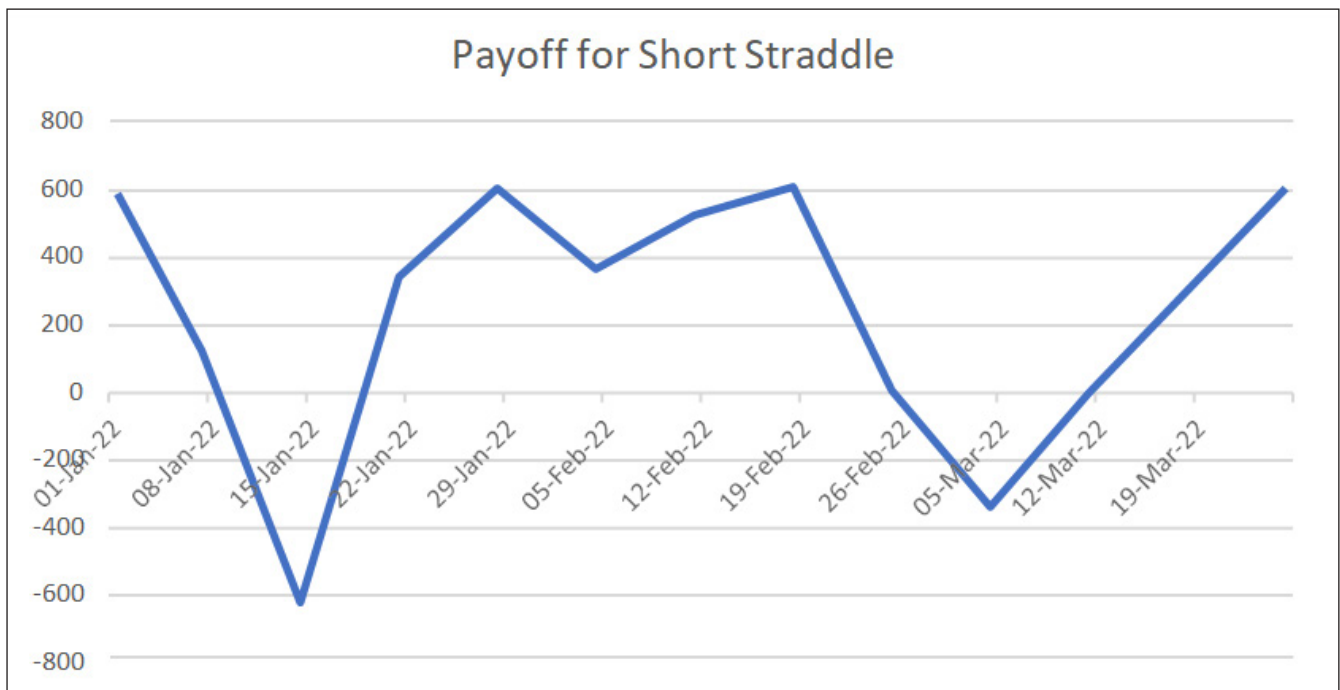
= 17,150 - 330

= 16,820

If the investor does a short straddle strategy i.e. it involves both call sell and put sell of NIFTY FIFTY on 1st January 2022 with a strike price of Rs.17150 and receives a premium of Rs.350 on call sell and a premium of Rs330 on put sell. The stock price on starting date is Rs.17238. Then the Payoff when the stock price changes on the year of 2022 are as follows.

33

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

Table 6.Represents the Payoffs of Short Straddle strategy of Nifty fifty for 2022 Year

Date	Close Price	Net Pay off for Call Sell	Net Payoff for Put Sell	Payoff for Short Straddle
01-Jan-22	17238.5	261.5	330	591.5
07-Jan-22	17704.55	-204.55	330	125.45
14-Jan-22	18449.65	-949.65	330	-619.65
21-Jan-22	17485.85	14.15	330	344.15
28-Jan-22	17077.1	350	257.1	607.1
04-Feb-22	17462.55	37.45	330	367.45
11-Feb-22	17303	197	330	527
18-Feb-22	17219.2	280.8	330	610.8
25-Feb-22	16478.3	350	-341.7	8.3
04-Mar-22	16133.8	350	-686.2	-336.2
11-Mar-22	16470.9	350	-349.1	0.9
25-Mar-22	17076.55	350	256.55	606.55

Graph 8.Represents data of payoffs of Nifty Fifty short straddle for 2022 Year

Interpretation

Upper Breakeven Point = Long Call Strike Price + Net Premium

$$= 17150 + 680$$

$$= 17830$$

Lower Breakeven Point = Long Put Strike Price − Net Premium

$$= 17150 – 680$$

$$= 16470$$

From the above table, it has been showed that from 1st January to 31st March 2022, he gets Profits due to Nifty Fifty Option is below Rs.17830 and above Rs.16470, within the time he gets a losses of Rs.59.15 on 1st January 2022, that is amount paid as premium.

Here the data of both the payoffs foe which the investors will compare in long straddle strategy with short straddle strategy is as follows.

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

34

Table 7.Represents the Comparison Payoffs of Long Straddle and Short Straddle strategy of Nifty fifty for 2022 Year

Date	Close Price	Payoff for LongStraddle	Payoff for ShortStraddle
01-Jan-22	17238.5	-591.5	591.5
07-Jan-22	17704.55	-125.45	125.45
14-Jan-22	18449.65	619.65	-619.65
21-Jan-22	17485.85	-344.15	344.15
28-Jan-22	17077.1	-607.1	607.1
04-Feb-22	17462.55	-367.45	367.45
11-Feb-22	17303	-527	527
18-Feb-22	17219.2	-610.8	610.8
25-Feb-22	16478.3	-8.3	8.3
04-Mar-22	16133.8	336.2	-336.2
11-Mar-22	16470.9	-0.9	0.9
25-Mar-22	17076.55	-606.55	606.55
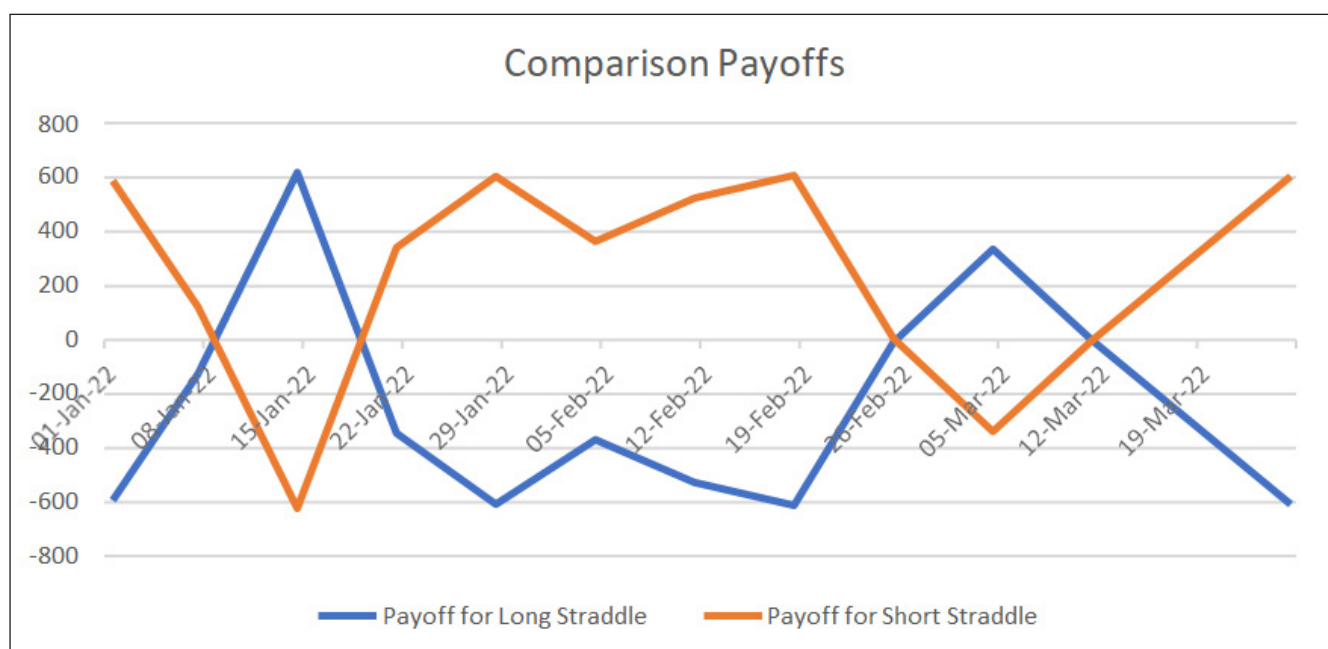
Graph 9.Represents the Comparison Payoffs of Long Straddle and Short Straddle Strategy of Nifty fifty for 2022 Year

Interpretation

From the above table and graph, the investor compares both the long straddle and short straddle strategies of Nifty Fifty from January to march 2022 year. In the graph it is observed that long straddle strategy and short straddle strategies are opposite to each other. The maximum profit in long straddle strategy is Rs680 whereas in short straddle maximum loss is Rs 680.

Findings

- It is observed from the study that in case of call buyer nifty fifty option, the spot price on the date of expiry of the contract is more than the strike price. During the three months period the net payoff of the contract is Profit, limited to the amount of premium paid of Rs. 350.

- It is observed from the study that in case of put buyer nifty fifty option, the spot price on the date of expiry of the contract is more than the strike price. During the three months period the net payoff of the contract is profit which is confined to the amount of Rs. 330.

- It is observed from the study that in case of call seller

35

Leelavati T S et al.
J. Adv. Res. Servi. Mgmt. 2023; 6(2)

nifty fifty option, the spot price on the date of expiry of the contract is more than the strike price. During the three months period the net payoff of the contract is loss, limited to the amount of premium received of Rs.350.

- It is observed from the study that in case of put seller nifty fifty option, the spot price on the date of expiry of the contract is more than the strike price. During the three months period the net payoff of the contract is loss which is confined to the amount of Rs. 330.

- It is observed from the study that in case of long straddle, During the three months period the net payoff of the contract is Profit, limited to the premium of call buy and put buy i.e., Rs. 680.

- It is observed from the study that in case of short straddle, During the three months period the net payoff of the contract is loss, limited to the premium of call sell and put sell i.e., Rs. 680.

Conclusion

Nifty Fifty Index Options are now traded actively on many exchanges throughout the world. The investor those who are invest in stock markets to avoid losses in index to put their investments through derivatives in that use options to minimize their risk and to follow the other strategies in options to maximize their profits. The implications of this research theoretically and practically prove that the choice of hedging instruments to cope with volatility is very important.

References

Jain S, Saha A. FII Profitability and Market Uncertainty: An Emerging Economy Context. Global Business Review, 2023; 09721509231178996.

Kumar S S S. Financial derivatives. PHI Learning Pvt. Ltd 2007.

Leelavati T S, Chalam G V. Can emotional intelligence be developed. *International Journal of Multidisciplinary Educational Research*, 2020; 9(8):, 104-109.

Royit A, Jose B, Varghese J. Beware of Extreme Investor Sentiments! Indian Evidence on the Performance of Neuro-specific Options Volatility Trading Strategies on the Facets of COVID-19. *Journal of Emerging Market Finance*, 2023; 22(3):, 326-350.

Singh V K. Parliamentary elections create more 'options': Evidences from world's largest democracy 'India'. *Journal of Asset Management*, 2016; 17, 375-392.