

BEST OPTION TRADING STRATEGIES *For* INDIAN MARKET

*Your handbook for Option trading strategies
with plenty of case studies and examples*

12.0914	98.03	↑	3.00	12.00%
79.0276	37.28	↑	7.03	77.40%
26.2081	10.54	↓	0.67	91.62%
68.1843	19.72	↑	9.83	34.01%
34.7650	24.87	↓	4.16	53.96%

17.0733	52.01	↑	3.00	143.57%
41.1760	54.2983	↑	3.00	19.53%
54.2983	107.50	↑	3.00	100%
107.50	107.50	↑	3.00	100%
107.50	107.50	↑	3.00	100%



MOONMOON BISWAS

Best Option Trading Strategies for Indian Market

Your handbook for Option trading strategies with plenty of case studies and examples

“The key to trading success is emotional discipline. If intelligence were the key, there would be a lot more people making money trading... I know this will sound like a cliché, but the single most important reason that people lose money in the financial markets is that they don’t cut their losses short.” – Victor Sperandeo

ABOUT THIS BOOK

Hello friends,

I am Moonmoon Biswas, an Equity Research Analyst in India having more than decade's experience in option treading.

Today I am very glad to introduce this Option trading book to all retail option traders in India. It doesn't matter whether you are a beginner or an expert, this book will help you to build a new perspective towards option trading.

In India, option trading is still at its nascent stage. Trading and option trading still are consider as same as gambling and professional trading is not considered a prestigious work. But option trading requires good knowledge, planning and research to make right strategies as per requirements. These strategies also require adjustments time to time depending on the market movement.

I have worked in ASX options market along with Indian options market for quite some time. I have shared my experience towards Indian option trading market along with relevant practical examples from my trading. After reading this book, you will have clear knowledge on the following topics:

- (i) Basic concepts on options
- (ii) Importance of option Greeks in option strategy
- (iii) Drawing option strategy pay-off charts in excel
- (iv) Calculating Volatility of stocks or index
- (v) Few option strategies which are applicable on Indian market and their adjustments
- (vi) How to select right strategy depending on market condition, stock movement and other parameters
- (vii) Name of the stocks which are good for trading in Indian option market from 209 F&O stocks
- (viii) Screener /points to select different option trading strategies specially for Indian option market

I have tried to bring in practical touch in the book instead of making it a book of theories. All most all the sections of this book is illustrated with examples, charts and tables so that reading experience becomes interesting.

I hope you all will like the book and will be benefited out of it. Always remember that trading does not make you rich overnight. Trading requires in depth knowledge and practice to get success like any other work. So you need to work hard and work smart in the correct way.

Wish you a successful trading career!
Happy Trading,
Moonmoon Biswas
Kolkata, India
14.6.2018

Table of Contents

Basic Discussion on Option Trading

Why Option Trading?

What is an option?

Some important terms related to option

Explanation of different term with an Example

Two most important factors affecting option Price other than asset price

Option Greeks

Delta

Gamma

Theta

Vega

Calculation of historical volatility

How to draw Payoff diagram in Excel

Payoff diagram of a long call option

Payoff diagram of a long Put option

Payoff diagram of a Short call option

Payoff diagram of a Short Put option

Option Strategy Pay-off Diagram

Long straddle Pay-off diagram

Pay-off Diagram of Bear Call option Strategy

Some Useful Option Trading strategies

Iron Condor option strategy

When to applicable

Method

Iron Condor case 1

Calculation of maximum Profit

Calculation of Maximum Loss

Breakeven Points

More Explanation of the above case study under different scenario

IRON Condor Adjustment

Where to adjust

How to adjust

Explanation with Practical Example

Second Option Strategy: Horizontal Calendar Spread

Construction of Calendar Spread

Calculation of Maximum Profit

Calculation of Maximum Loss

Finding out break-even points

When to close the position

More Explanation with Practical Example

Example2: Neutral to Bullish Calendar Spread on ONGC

Third Option Strategy: Bear Put and Bear Call Spread option Strategy

Bear Put Spread

Construction

Pay-off graph

Calculation of Maximum profit

Calculation of maximum Loss

How to determine the breakeven Point

Practical Example

Adjustments in Bear Put spread option Strategy

Bear Call Spread

Construction

Pay-Off Graph

Calculation of Maximum profit

Calculation of maximum Loss

How to determine breakeven Point

Explanation of the given example

Adjustment of bear call spread option Strategy

Which strategy is better; Bear call Spread or Bear Put Spread?

Fourth Strategy: Bull call and bull put option strategy

Bull Call option Strategy

Construction

Pay-Off Diagram

[Calculation of maximum Profit](#)

[Calculation of maximum Loss](#)

[Finding out break-even point](#)

[Example on Yes bank](#)

[Adjustment of Bull call spread](#)

[Bull Put Spread](#)

[Construction](#)

[Pay Off Diagram](#)

[Maximum Profit calculation](#)

[Maximum Loss Calculation](#)

[Finding out break-even point](#)

[Closing off the given example](#)

[Adjustment of Bull Put spread](#)

[Bullish on Volatility option strategies](#)

[Reverse Iron Condor](#)

[Reverse Iron Condor Construction](#)

[Reverse Iron Condor Case1](#)

[Calculation of maximum Profit](#)

[Calculation of maximum loss](#)

[Break-even points of Reverse Iron Condor Strategy](#)

[Explanation of Case 1 example under different situations](#)

[Reverse Iron Condor Adjustment before Expiration](#)

[Short Put Ladder Strategy](#)

[Construction of Short Put Ladder Strategy](#)

[Case study1](#)

[Calculation of Maximum Profit](#)

[Calculation of Maximum loss](#)

[Finding out break-even points](#)

[Practical Example of short put Ladder on Bank of Baroda](#)

[Long Straddle and long strangle option strategies](#)

[Formation of Long Straddle](#)

[Formation of Long Strangle](#)

[Example](#)

[Practical Example: Long Straddle on Infosys in January'2018](#)

[Adjustment of Long Straddle and Long Strangle spread](#)

[Easy Guide for Indian option market](#)

[General Guidance](#)

[Special advice for Indian Market](#)

[Trading tips for long strangle/Long straddle option strategy](#)

[Trading tips for Short-put ladder option strategy](#)

[Trading tips for Iron Condor option Strategy](#)

[Trading tips for Bear Call and Bear Put option strategy](#)

[Trading tips for Bull Call and Bull Put option strategy](#)

[Trading Tips for Reverse Iron Condor Strategy](#)

[Trading Tips for Calendar Spread Option Strategy](#)

[Declaration](#)

Chapter1:

Basic Idea on Option Trading

Basic Discussion on Option Trading

Why Option Trading?

Option trading is getting popular day by day due to its simplicity and lower risk profile. It is turning out to be one of the regular income streams because it requires very little amount of money and very basic knowledge to start with. Another advantage of option trading is that one can make profit irrespective of the market condition. The only one point of caution is that one has to select right strategy depending on the type of stock or index and depending on market condition.

Let me discuss the advantages of option trading one by one:-

Leverage: Option trading allows small amount of capital to control over larger monetary amount of underlying asset. A trader requires Rs.1, 20,000 to own 1000 shares whose stock price is Rs.120. But in option, the trader will require fraction of that amount to control such amount of shares.

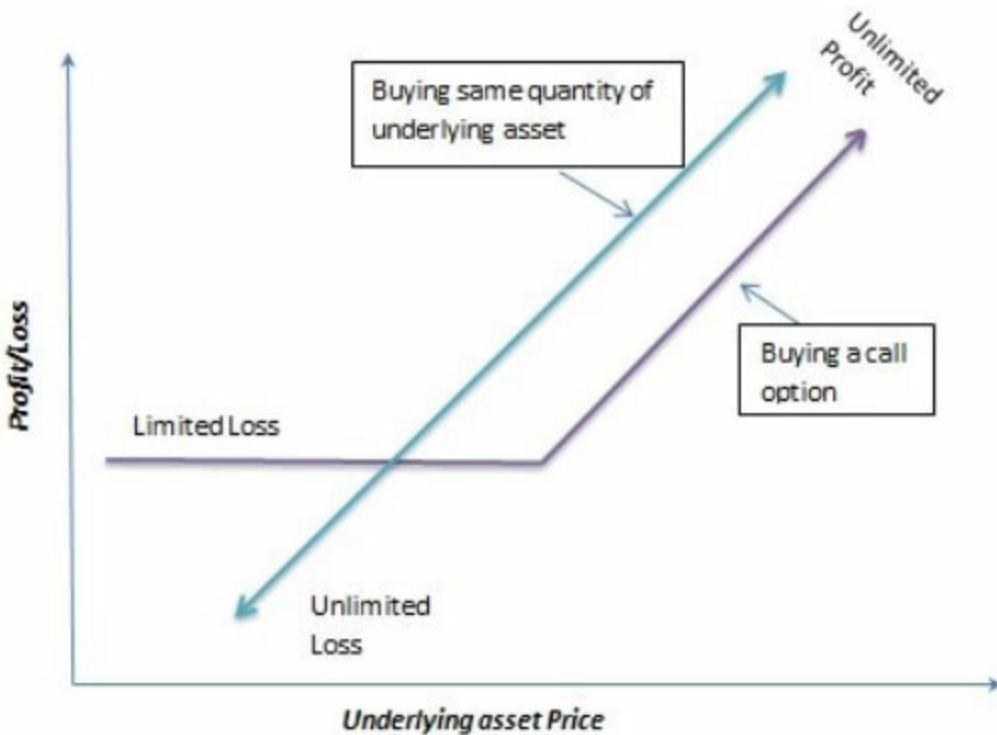
This smaller investment indicates higher amount of profit as quantity of the shares will be same.

Flexibility: Option trading is a very flexible investment tool. In case of trading with future or underlying asset, one can trade under two situations i.e. underlying asset price is in rising mood or the underlying asset price is declining. One has nothing to do when market is stagnant.

But option trading allows trading and making profit in below mentioned any situation:

- Underlying asset price is Moving Higher /Lower
- Underlying asset price is moving too slowly
- Active Market Direction/stock price movement is not clear
- Volatility Increasing /Decreasing

Limited Risk-Unlimited Profit: The maximum loss is limited when one buys an option but the possible profit amount is unlimited but this situation may also change depending on the option strategy.



From the above chart it is clear that one has limited risk while owning a call option and this risk amount is limited to the premium paid for buying the option whereas owning same amount of underlying asset has unlimited loss.

The factors which can affect the option price are underlying asset price, time and volatility. Option strategies can be created or adjusted by manipulating these parameters as per one's risk-reward tolerance ratio.

Portfolio protection is also possible by creating hedge with option to fight with adverse situation.

What is an option?

An option is the right either to buy or to sell a specified amount of a particular underlying asset, at a pre-determined price by pre-determined expiration time frame.

Option is known as derivative because its value is derived from an underlying asset and its price fluctuates as the price of the underlying asset rises or declines.

There are two types of options; Call option and Put option.

Call option: A call option is the right but not the obligation to buy a fixed amount of share at fixed price on or before the expiry period. If the trader is expecting an upside movement of the stock or market then he should buy call

option of that stock or call option of the market (here generally Nifty).

E.g.-If the trader has bullish view on the banking stocks for near term then he should buy call option of Bank-Nifty.

Put option: A put option is the right but not the obligation to sell a fixed amount of shares at fixed price on or before the expiry period. If the trader has a bearish view on market or a particular stock then he should buy put option of the market or put option of that particular stock.

Some important terms related to option

Underlying asset: Each option is based on an asset; this is known as underlying asset. This asset may be shares of a stock or value of an index.

Strike Price

The strike price (or exercise price) is the predetermined price at which the underlying asset may be bought by the call holder or sold by the put holder.

Expiration Date

This is the date on which an option expires. The trader may close his position before or on the expiry day. Normally the monthly option expires in the last Thursday of every month in India.

Option premium

The price paid for buying the option is known as option premium or simply option price. The buyer pays the option premium to own the option and the seller of the option receives that premium. The premium depends on different parameters.

This premium can be divided into two parts; intrinsic value and time value. These parts will be explained with examples at the later part of this chapter.

Parameters affecting option premium

A trader should have clear knowledge on the parameters which affect the option pricing. The option price generally depends on the underlying asset, volatility, time left for expiry and interest rates. All of these factors will be discussed in details in option Greeks chapter.

In-the-money option

A call option will be known as in-the-money option (ITM) when the strike price is lower than the underlying asset price. On the other hand, a put option will be in-the-money option when strike price is higher than the underlying asset price.

At-the-money option

When underlying asset price is equal to strike price of the option, the option is known as at-the-money option.

Out-of-the-money option

A call option will be known as out-of-the-money option when the strike price is higher than the underlying asset price. On the other hand, a put option will be known as out-of-the-money option when strike price is lower than the underlying asset price.

Explanation of different term with an Example

This is the option chain of State Bank of India (SBIN) when the underlying asset price or SBIN price was Rs.250.

Select Index ▾			OR	Search for an underlying stock:				GO	Filter by:		Expiry Date	26APR2018 ▾					
CALLS								PUTS									
Volume	IV	LTP	Net Chng	Bid Qty	Bid Price	Ask Price	Ask Qty	Strike Price	Bid Qty	Bid Price	Ask Price	Ask Qty	Net Chng	LTP	IV	Volume	C
-	-	-	-	27,000	88.85	91.60	156,000	160.00	-	-	-	-	-	-	-	-	-
-	-	-	-	129,000	78.90	81.65	102,000	170.00	-	-	-	-	-	-	-	-	-
-	-	-	-	81,000	69.25	71.60	60,000	180.00	9,000	0.10	0.40	3,000	-	1.70	-	-	-
-	-	-	-	129,000	59.35	61.90	102,000	190.00	21,000	0.25	0.50	21,000	-	0.50	-	-	-
3	67.04	53.15	2.15	33,000	49.60	52.30	111,000	200.00	3,000	0.60	0.70	3,000	-0.25	0.65	49.30	60	C
-	-	-	-	108,000	39.90	42.95	111,000	210.00	3,000	1.00	1.10	3,000	0.40	1.05	45.24	31	C
3	46.36	33.45	10.30	30,000	28.30	33.50	48,000	220.00	3,000	1.60	1.65	3,000	0.30	1.70	41.18	261	C
15	44.69	25.35	-2.90	3,000	22.50	24.70	48,000	230.00	3,000	2.70	2.85	3,000	0.35	2.85	37.54	434	C
56	30.35	15.05	-4.35	3,000	15.20	15.70	3,000	240.00	30,000	4.90	4.95	9,000	0.65	5.00	34.90	771	C
800	32.82	9.80	-2.80	3,000	9.70	9.80	3,000	250.00	3,000	8.55	8.90	3,000	1.45	9.00	34.36	902	C
1,184	32.65	5.60	-2.10	3,000	5.60	5.75	6,000	260.00	9,000	14.05	14.90	3,000	2.50	14.80	34.56	234	C
793	32.90	3.00	-1.50	6,000	2.95	3.00	108,000	270.00	9,000	21.25	23.10	24,000	3.50	22.00	34.68	49	C
419	35.40	1.85	-0.80	21,000	1.75	1.90	6,000	280.00	6,000	30.15	31.70	6,000	3.50	31.00	38.96	55	C
119	37.60	1.15	-0.40	9,000	1.10	1.20	3,000	290.00	3,000	39.35	39.60	3,000	4.40	40.00	40.66	29	C
403	41.52	0.90	-0.30	6,000	0.85	0.95	9,000	300.00	36,000	49.15	51.05	108,000	4.45	49.45	43.23	128	C
59	43.51	0.60	-0.40	12,000	0.60	0.65	3,000	310.00	3,000	58.75	60.55	78,000	1.95	57.70	-	10	C
10	46.18	0.45	-0.15	3,000	0.40	0.50	3,000	320.00	57,000	68.50	70.85	135,000	4.85	69.00	51.17	19	C

Here expiry period is 26th April'2018. It indicates that these listed options should be traded on or before 26th April'18.

The call options are listed on left hand side and put options are listed on right hand side.

Strike Price of the options is listed just middle of the two types of options. As the underlying stock price is Rs.250, so the call and put option of strike price Rs.250 are at-the-money option. The call and put options of strike prices below Rs.250 are in-the-money call option and out-of-the-money put options respectively.

The call and put options above Rs.250 are out-of-the-money call options and in-the-money put options respectively.

In the above table, option premium or option price is denoted by three columns; "LTP" or Last Traded Price, Bid Price and Ask Price.

Bid Price is the price at which buyers in the market are interested to buy that particular option so that you can sell your option at that price. Ask price is just opposite to that.

"The price of SBIN call option of strike price Rs.240 of April'18 expiry is Rs.15.05 as on 29th March when the price of SBIN is Rs.250. Lot size of SBIN is 3000 shares."

The above statement is indicating the below mentioned facts:-

a) The SBIN call option of strike price Rs.240 is in-the-money option as strike price is lower than the underlying asset price.

b) The buyer of this option trader has the right but not the obligation to buy 3000 shares of SBIN at Rs.240 (strike price) per share within the pre-mentioned time frame i.e. last Thursday of April'18 or 26th April'2018. To buy this right, he has paid Rs.15.05 per share (option premium).

Hence, he should exercise the option when it will be profitable for him i.e. when the underlying asset price will be above Rs. $(240+15.05)=\text{Rs.}255.05$.

c) **Intrinsic value** is the in-the-value portion of an option premium i.e. the difference between the underlying asset price and the strike price when the option is in-the-money option.

Here intrinsic value of the call option of strike price Rs.240 is (underlying stock price i.e. Rs.250-strike price i.e. Rs.240) = Rs.10

But the option premium is Rs.15.05. Hence the difference between the option premium and intrinsic value is the time value of the option premium.

Two most important factors affecting option Price other than asset price

Volatility

Volatility refers to the price fluctuation of an underlying asset. This volatility can be of two types: Historical volatility and Implied volatility.

Normally option premium increases as volatility increases and vice versa.

Historical Volatility

Historical volatility is the historical price fluctuation of the underlying asset in percentage terms. Normally it is calculated as standard deviation of daily fluctuation of historical closing prices. Calculation of historical volatility will be discussed in chapter3.

Implied Volatility

Implied Volatility (IV) is one of the most important deciding factors of option price. We found Historical Volatility is the annualized standard deviation of the past price movement of a stock or index. But Implied Volatility is the volatility that matches with the current option price and indicates current and future perception of the market risk. In one sentence, implied volatility is the volatility which market implies about the stock's volatility in the future.

It is important because option price increases if implied volatility increases keeping other parameters remain constant.

You can get implied volatility of option prices in NSE websites or any other financial websites or softwares where option chains are available.

Days or Time to expiration

The time remaining in days to the expiry period is an important factor to determine option price.

The value of option decreases as the time to expiration gets closer.

The more time remaining until expiration, the more time value of the option contract has.

Chapter 2: Option Greeks

Option Greeks

Option Greeks are quite interesting. These are collection of statistical values named after Greek letters. If you want to get success in option trading and if you wish to take this profession as your full time earning option then you should understand each and every Option Greek.

The Option Greeks can be very useful to help you to predict future option price because they effectively measure the sensitivity of the price compared to some of the factors that affect price. In particular, these factors are underlying share price, decay in time, interest rate and the volatility.

If you know how option price changes with respect to these factors, you are in a better position to know how transactions will take place in future. The Greeks will give you an indication of how the price of an option will move compared to the way the underlying share price movements and they also help you to determine the amount of time an option loses on daily basis.

The Greeks are also risk management tools because they can be used to determine the risk of a particular position and find out how to mitigate that risk.

First time, these terms may look cumbersome or may feel difficult to understand but once you will understand their role in option trading; the work will be easier for you.

Of course, you can learn how to calculate the Greeks, but it is a complex and lengthy process. There are many softwares available in the market which can be used for this and most of the best online brokers offer automatic values for the Greeks in their display box of option chain.

There are five types of option Greeks but here I will discuss the most important four Option Greeks.

They are:

Name of Option Greek	Role in option Trading
Delta	It helps to calculate the change of option premium due to change in price of underlying while other things remain unchanged
Gamma	It calculates the change in delta
Theta	Measures the impact of a change in time remaining.
Vega	Measures the impact of a change in volatility.

Delta

Option Delta is the most important Greek to understand because it indicates sensitivity of option prices in relation to the price of underlying. In simple terms, it'll tell you changes in option price due to change in 1 unit of underlying price.

An option with high delta will move in price significantly in proportion to the price movements of the underlying security, while one with low delta will move less often.

The delta value of an option is usually expressed as -1 to 1. Normally delta of a call option is expressed from 0 to 1 and delta of a put option is expressed as -1 to 0.

The value depends mainly on the moneyness of a particular option i.e. whether the option is in-the-money or at-the-money or out-of-the-money.

Delta of any option can tell you the type of the option. Please follow the table to know in details:-

Moneyness of option	Delta Value
Far out of the Option (call/Put)	Close to Zero (they hardly move)
Deep in the money call option	Close to +1 (Option value move almost as much as underlying's price)
Deep in the money Put option	Close to -1 (Option value moves almost as much as underlying's price but in the opposite direction)
At the money Call option	+0.5
At the money Put option	-0.5

Normally, delta of a call option is positive. It means when we buy a call its delta value will be positive and when we buy a put its delta value will be negative. But this positive/negative sign will be opposite in case of selling.

Table showing positive/negative sign of call and put option

Option type	Long(Buy)	Short (sell)
Call Option	+ (Positive)	Negative (-)
Put Option	- (Negative)	+ (Positive)

How to calculate option price with respect to underlying's price change depending on delta value

Suppose a trader holds a call option which is slightly in-the-money with a

delta of 0.6 and market price of 10. This call option gives you the right to buy 100 shares of company X for Rs.150. Currently the company X is trading at Rs.160. What will happen if the stock price increases to Rs.170?

Solution

Here the strike price of the given call option is Rs.150. As per given problem, market price of call option (150 strike price) will increase by Rs. 0.6 for an increase of stock price by Rs.1.

Therefore, if stock price increases by Rs.10 then the option price will increase by $10 \times 0.6 = 6$

i.e. the call option price will be approx. $(10+6)=16$ if the stock price increases to Rs.170.

How to calculate the delta of an option strategy/Portfolio

You can easily calculate the total delta of an option strategy or a portfolio by summing up deltas of all individual options.

For Example,

Suppose a trader have made an option strategy with the following option:-

1 ITM long call with delta 0.55

1 ITM long put with delta -0.6

1 OTM short call with a delta 0.3

1 OTM short put with a delta -0.4

The total delta of this position is:-

$$0.55 + (-0.6) - 0.3 + 0.4 = 0.05$$

It indicates that the market value of your option strategy or portfolio will increase by 0.05 unit for 1 unit move of the underlying's market price.

Note: Normally sign of delta of a put option is negative. Delta sign will also be negative when we short any call option. Whereas the sign will be positive for a shorting put option.

Importance of Delta Neutral Option Strategies

As you know, trading in derivative is somehow speculative because most of the action depends on trader's view on the stock or the market. This market outlook of the trader may be faulty and may end in huge losses. In this case, delta neutral strategy helps a lot. A delta-neutral strategy is a weapon of a trader which he can use to **earn profit without forecasting the direction of the market**.

The term "Delta Neutral" refers to any strategy where the sum of delta values of all the options is equal to zero. For an example, if you buy 2 call

options, each having a delta of 0.60 and you buy 4 put options also, each having a delta of -0.30 then you have the following:

Summing up the delta value = $(2 \times 0.60) + (4 \times -0.30) = 1.2 - 1.2 = 0$

Hence, position delta (total delta) is zero here this is known as **Delta Neutral**.

In practical, this type of option strategy will not get affected due to small movement in stock price or market but delta neutral position will not necessarily remain neutral if price of the underlying security moves to any side at great degree. Because, delta value of the option will change a lot if stock price moves in any one direction significantly.

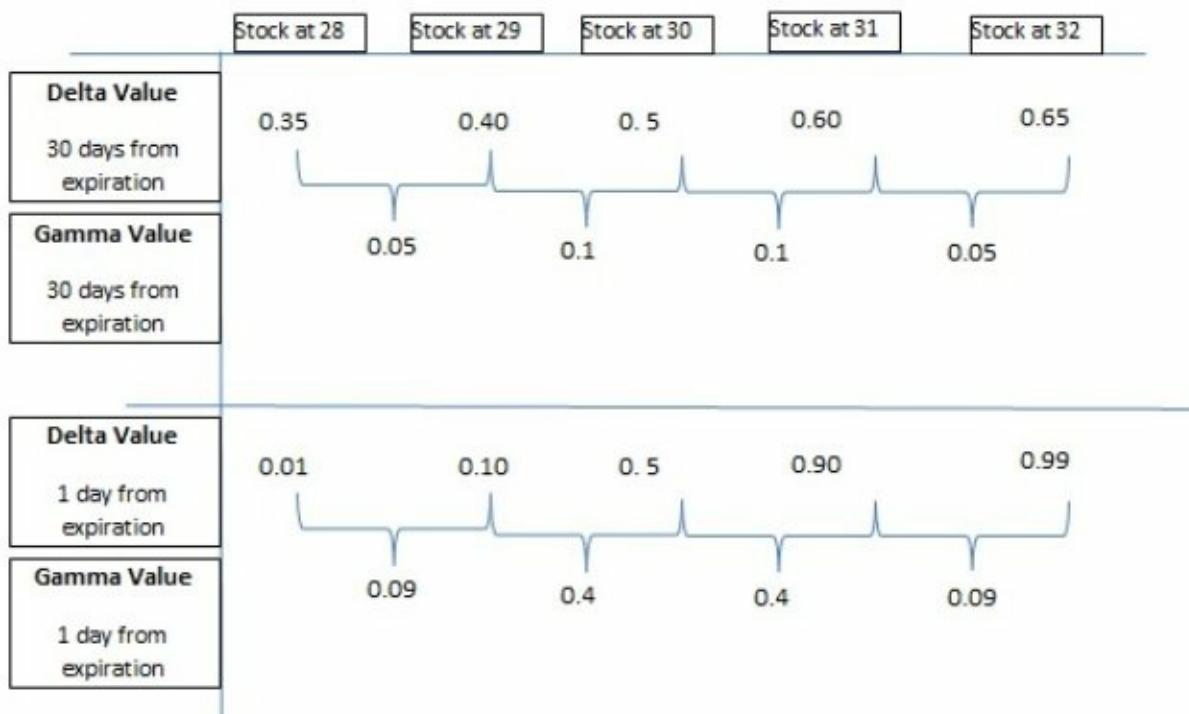
Gamma

Gamma is the rate of change of an option's delta i.e. gamma denotes how an option delta value changes with 1unit movement in underlying's market price. You need to reduce the gamma if you want to make a delta hedge option strategy for a wider price range.

Mathematically, delta is the first derivative of the option market price and gamma is the second derivative of the option price. When the option is deep in-the-money or out-of-the-money then the gamma value is small but when the option is near or at-the-money, gamma value is the largest.

All long option have positive gamma and short option have negative gamma. Hence, the trader can calculate the positional gamma for a particular option strategy by summing up gamma of all individual options.

Figure: Delta and Gamma for Stock ABC call of Strike price Rs.30



In the above figure, the strike price of the stock is Rs.30. So, when the stock price moves up or down from Rs.30, the option moves in or out-of-the-money. As you can see that the price of the option for at-the-money call changes more significantly than the other two types call i.e. in-the-money or out-of-the-money call.

Also it is clear from the gamma value that the rate of change in price is

higher in case of near term option than the longer term option.

What to see as a trader

As an option buyer, your primary aim will be for higher gamma value. Your option Delta will move towards the value 1 more rapidly as the call price will move towards in-the-money. Hence, you will gain more if your prediction is correct.

On the other hand, if your prediction goes wrong then this higher gamma value may bring big losses.

So, always try to keep balance between all Greeks.

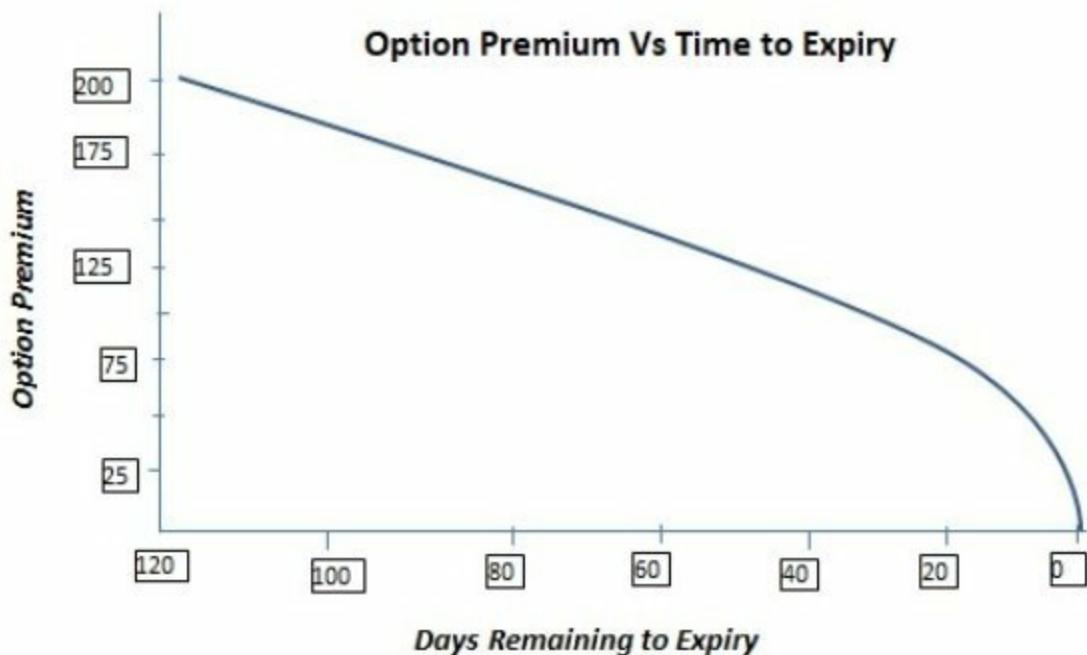
Theta

Theta, the third option Greek, indicates the decaying of option value over time. It is the ‘silent-killer’ for option buyer as it takes away all the option time value as the expiration comes near and theta value of option becomes zero at expiry.

As you know the **option value = intrinsic value + Time value**

Here this “Time value” depends on the value of theta. If the theta value is high for any option then its time value will decrease fast.

Theta values are always negative for option buyers and always positive for the option writers or sellers.



As you can observe in the graph, effect of theta is low on the option premium when expiry is far and the effect of theta becomes high on option premium as expiry comes near.

Being an option trader, you can take advantage of theta by opening credit spread position or by simply selling options. As time passes on, if the stock price remains same or does not change significantly or simply stays out-of-the-money then option value will decrease a lot and you will be able to keep the selling option premium with you.

On the other hand, if you are an option buyer then try to close down your

position within few days as theta can takes back your profit as the option reaches near to expiry.

Vega

Vega measures the change in option premium due to one unit change in implied volatility. Implied volatility indicates the expected volatility of the underlying asset over the life span of the option and not the historical volatility of the underlying asset.

No Auto	Refresh	Type	Strike	Expiration	Symbol	Last	Change	Bid	Ask	ImpV	ITM Prob	Delta	Gamma	Vega	Theta	S	
Last Update	15:32 Mar-09	Call	9,700.00	28-Mar-2018	NIFTYOPTDX...	870.00	-16.16	855.00	866.50	64.28	82.63	0.672	0.000	8.07	-14.872		
Last Price	10,226.85	Call	9,750.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	478.30	1,149.00	62.29	80.19	0.662	0.000	8.172	-14.585		
Change	-15.86 (-0.15%)	Call	9,800.00	28-Mar-2018	NIFTYOPTDX...	755.00	-45.86	748.60	770.40	59.39	77.56	0.653	0.000	8.257	-14.052		
Bid / Ask	N/A N/A	Call	9,850.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	394.30	799.50	43.31	74.76	0.671	0.000	8.084	-10.032		
Dividend %	0.00%	Call	9,900.00	28-Mar-2018	NIFTYOPTDX...	675.50	-48.86	663.85	689.85	56.59	71.81	0.627	0.000	8.464	-13.723		
Imp / His %:	25.74 N/A	Call	9,950.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	316.20	0.00	NaN	68.71	NaN	NaN	NaN	NaN	NaN	
		Call	10,000.00	28-Mar-2018	NIFTYOPTDX...	598.00	-29.36	586.90	592.50	53.03	65.49	0.599	0.000	8.643	-13.153		
		Call	10,050.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	245.05	0.00	NaN	62.17	NaN	NaN	NaN	NaN	NaN	
		Call	10,100.00	28-Mar-2018	NIFTYOPTDX...	505.95	-36.36	501.10	508.85	49.50	58.78	0.567	0.000	8.794	-12.472		
		Call	10,150.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	181.80	0.00	NaN	55.33	NaN	NaN	NaN	NaN	NaN	
		Call	10,200.00	28-Mar-2018	NIFTYOPTDX...	425.00	-30.96	420.15	432.90	46.37	51.86	0.531	0.000	8.895	-11.818		
		Call	10,250.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	266.00	629.70	51.46	48.40	0.514	0.000	8.915	-13.145		
		Call	10,300.00	28-Mar-2018	NIFTYOPTDX...	344.10	-36.20	346.60	353.65	43.09	44.96	0.489	0.000	8.917	-11.099		
		Call	10,350.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	186.50	549.40	47.57	41.58	0.475	0.000	8.903	-12.134		
		Call	10,400.00	28-Mar-2018	NIFTYOPTDX...	278.75	-29.40	282.05	283.75	40.35	38.27	0.442	0.000	8.826	-10.205		
		Call	10,450.00	28-Mar-2018	NIFTYOPTDX...	0.00	0.00	242.40	416.30	47.90	35.07	0.439	0.000	8.816	-12.100		
		Call	10,500.00	28-Mar-2018	NIFTYOPTDX...	218.50	-17.86	218.05	219.60	37.41	31.98	0.309	0.000	8.575	-9.192		
		Call	10,550.00	28-Mar-2018	NIFTYOPTDX...	190.00	-22.46	188.60	191.55	36.05	29.02	0.361	0.000	8.375	-8.650		
		Call	10,600.00	28-Mar-2018	NIFTYOPTDX...	162.90	-13.60	162.85	163.75	34.73	26.21	0.332	0.000	8.119	-8.080		
		Call	10,650.00	28-Mar-2018	NIFTYOPTDX...	139.70	-4.86	136.00	141.40	33.47	23.56	0.302	0.000	7.803	-7.484		
		Call	10,700.00	28-Mar-2018	NIFTYOPTDX...	118.60	-7.36	118.15	118.85	32.56	21.08	0.274	0.000	7.453	-6.952		
		Call	10,750.00	28-Mar-2018	NIFTYOPTDX...	97.00	-34.96	96.35	108.00	31.95	18.77	0.249	0.000	7.084	-6.486		
		Call	10,800.00	28-Mar-2018	NIFTYOPTDX...	82.60	-32.06	81.40	81.90	30.50	16.63	0.216	0.000	6.559	-5.733		
		Call	10,850.00	28-Mar-2018	NIFTYOPTDX...	63.35	-4.95	64.75	69.25	29.65	14.66	0.189	0.000	6.057	-5.145		
		Call	10,900.00	28-Mar-2018	NIFTYOPTDX...	55.15	-8.46	54.90	55.40	28.99	12.87	0.165	0.000	5.557	-4.612		
		Call	10,950.00	28-Mar-2018	NIFTYOPTDX...	43.95	-37.06	39.05	49.00	28.19	11.24	0.141	0.000	4.543	-4.033		

Part-screenshot taken from OptionsOracle Software

The above table is the nifty options of March'2018 expiry with their Greek values. If you observe the values carefully you will find that the Vega value is higher for at-the-money options compare to the in-the-money or out-of-the-money options.

Normally option price increases if implied volatility increases. Long options have positive Vega and short options have negative Vega. Like the other Option Greeks, you can calculate the positional Vega of a strategy by summing up all the individual Vega value.

Chapter 3:

Calculation of Historical Volatility

Calculation of historical volatility

To calculate historical volatility of a stock or index, first decide the time frame for which the metric will be calculated. I normally prefer to use last 1 year time frame to calculate daily and annual historical volatility.

But here I will show the calculation of historical volatility of bank nifty on 10days time frame.

Step1: First collect historical data i.e. closing price of bank nifty from NSE. The data should be collected for “t+1” days where “t” is the time frame for calculating the volatility.

Here I have to collect last 11 days bank nifty data.

To collect data, first I went to the below link and then chose Nifty Bank: -
https://www.nseindia.com/products/content/equities/indices/historical_index_.htm

I took only date and closing price data and put those in to the excel sheet.

Date	Close
6-Feb-18	25811.3
7-Feb-18	25670
8-Feb-18	25920.7
9-Feb-18	25463.7
12-Feb-18	25701.6
14-Feb-18	25341.3
15-Feb-18	25424.4
16-Feb-18	25163.9
19-Feb-18	25058.6
20-Feb-18	24874.4
21-Feb-18	24936.7

Step2: Calculate Log return of closing price data

The easiest calculation procedure of historical volatility is the standard deviation of logarithmic returns. So, we first need to calculate log return.

Daily log return of closing prices is simply the natural logarithm (\ln) of the ratio of closing price and the closing price the day before.

By Formula,

$$\text{Log Return} = \ln (C_i/C_{i-1})$$

To calculate this in excel, we will use “LN” function.

Date	Close	Log Return
6-Feb-18	25811.3	
7-Feb-18	25670	=LN(C4/C3)
8-Feb-18	25920.65	
9-Feb-18	25463.65	
12-Feb-18	25701.6	
14-Feb-18	25341.25	
15-Feb-18	25424.35	
16-Feb-18	25163.9	
19-Feb-18	25058.55	
20-Feb-18	24874.4	
21-Feb-18	24936.7	

Here cell C4 data is the closing price and cell C3 data is previous date's data.

Copy the formula of log return data and calculate all log return data for rest of the column.

Date	Close	Log Return
6-Feb-18	25811.3	
7-Feb-18	25670	-0.00548939
8-Feb-18	25920.65	0.009716953
9-Feb-18	25463.65	-0.017788
12-Feb-18	25701.6	0.009301302
14-Feb-18	25341.25	-0.01411974
15-Feb-18	25424.35	0.003273873
16-Feb-18	25163.9	-0.01029695
19-Feb-18	25058.55	-0.00419534
20-Feb-18	24874.4	-0.00737592
21-Feb-18	24936.7	0.002501452

Step3: Calculate Standard deviation of Log Returns

Now the third and final step is to calculate standard deviation of logarithmic returns. For this purpose, we will use sample standard deviation and the Excel formula for that is STDEV.S.

B	C	D	E	F	G
Date	Close	Log Return			
6-Feb-18	25811.3				
7-Feb-18	25670	-0.00548939			
8-Feb-18	25920.65	0.009716953			
9-Feb-18	25463.65	-0.017788			
12-Feb-18	25701.6	0.009301302			
14-Feb-18	25341.25	-0.01411974			
15-Feb-18	25424.35	0.003273873			
16-Feb-18	25163.9	-0.01029695			
19-Feb-18	25058.55	-0.00419534			
20-Feb-18	24874.4	-0.00737592			
21-Feb-18	24936.7	0.002501452			

=STDEV.S(D4:D13)

The result of this calculation will give us daily volatility of the stock/index based on given data.

I normally use 1 year or 252 days data to calculate daily and annual historical volatility. But you can use any timeframe which suits you better.

Now to convert the daily volatility into annual volatility, you have to use Square root (In excel, SQRT).

A	B	C	D	E	F	G	H
	Date	Close	Log Return		Daily Volatility	Annual Volatility	
	6-Feb-18	25811.3					
	7-Feb-18	25670	-0.00548939				
	8-Feb-18	25920.65	0.009716953				
	9-Feb-18	25463.65	-0.017788				
	12-Feb-18	25701.6	0.009301302				
	14-Feb-18	25341.25	-0.01411974				
	15-Feb-18	25424.35	0.003273873				
	16-Feb-18	25163.9	-0.01029695				
	19-Feb-18	25058.55	-0.00419534				
	20-Feb-18	24874.4	-0.00737592				
	21-Feb-18	24936.7	0.002501452				

0.009445896 =F4*SQRT(252)

You can also get daily and annualized historical volatility of NSE stocks from NSE website.

You can go to www.nseindia.com, search by writing the stock name, the below screen will appear. Then click on the “Get Derivatives Quote” link as shown in the below picture.

The screenshot shows the NSE India website's 'Live Watch' section for the stock SBIN. The main content displays the following information:

- Quote:** As on Mar 28, 2018 15:59:59 IST
- State Bank of India**
- Series:** EQ | N2 | NS | N6
- Symbol:** SBIN | ISIN: INE062A01020 | Status: Listed
- Symbol P/E:** 53.39 | **Sectoral Index P/E:** 29.79 | **Sectoral Index:** NIFTY BANK
- Price:** 249.25 | **Pr. Close:** 254.35 | **Open:** 252.00 | **High:** 256.20
- Market Tracker:** Click Here

A red circle highlights the 'Get Derivatives Quote' link located in the top right corner of the main content area. Below the main content, there are several sections:

- Recently Viewed Quotes:** INFY - EQ, SBIN - EQ, TATASTEEL - EQ, BAJFINANCE - EQ, HCLTECH - EQ
- Company Reports:** NSE - IIFT Sponsored Company Reports, Credit Reports - Sponsored by NSE - IIFT
- Related Links:** Get Shavogya, Market Activity Report and other COO reports, View Current Market Reports (Equities)
- Historical Data:** View Historical Data (Equities), Monthly, Yearly, 52-week M/L, Daily / Monthly reports
- Did You Know:** The higher the Percent of Derivative Quantity Traded Quantity the better - it indicates that most buyers are expecting the price of the share to go up.

Image: Part Screenshot taken from www.nseindia.com

Now a new window will appear. Click on “other information” on the new window. You will get your information.

Quote As on Mar 28, 2018 15:30:30 IST 

State Bank of India - SBIN

[Get Underlying Quote](#) | [Option Chain](#)

Index Derivatives
Derivatives

Stock Derivatives

Currency

Instrument Type:

Stock Futures

Symbol :

SBIN

Expiry Date :

28MAR2018

Option Type : Strike Price :

Select

Select...

Get Data

249.85

▼ -4.20 -1.65%

Prev. Close

254.05

Open

251.95

High

256.00

Low

249.50

Close

0.00

Fundamentals

Historical Data

Print

Traded Volume (contracts)	22,646
Traded Value * (lacs)	1,71,285.29
VWAP	252.12
Underlying value	249.25
Market Lot	3000
Open Interest	2,27,88,000
Change in Open Interest	-41,85,000
% Change in Open Interest	-15.52
Implied Volatility	-

Order Book

Intra-day

Future v/s Index

Buy Qty.	Buy Price	Sell Price	Sell Qty.
2,34,000	249.85	249.90	96,000
3,69,000	249.80	249.95	4,26,000
1,50,000	249.75	250.00	96,000
3,51,000	249.70	250.05	57,000
1,77,000	249.65	250.10	33,000
18,90,000	Total Quantity		68,10,000

+ Cost of Carry

- Other Information

Settlement Price	254.05
Daily Volatility	2.32
Annualised Volatility	44.35
Client Wise Position Limits	5,61,80,454
Market Wide Position Limits	72,36,09,099

 [Image: Part Screenshot taken from www.nseindia.com](#)

Chapter4:

How to Draw Pay-off Diagram in Excel

How to draw Payoff diagram in Excel

Payoff diagram is nothing but the graphical representation of potential outcome or in simple terms, possible profit and loss of an option or option strategy. It is the general procedure of drawing payoff diagram before entering buying/selling an option or before entering into option strategy because it gives us a clear picture of risk-reward ratio.

There are many methods to draw pay-off diagram in excel. Some of them are easy and some of them are hard to understand. Here I shall discuss a very simple method to draw payoff diagram in excel. But before starting you have to keep in mind some important points or terms which I will use in rest of my discussions of this book.

Long option: Buying an option.

Short option: Selling an option

Option Buyer: The trader who has bought the option i.e. he has paid the option premium to buy the right. It indicates cash outflow from that trader.

Option writer: The trader who has sold the option i.e. he has received option premium from the option buyer. It indicates cash inflow of that trader.

Call option: Buying call option means if the asset price increases then value of call option will also increase. Hence the trader will buy the call option if he is expecting an upside movement of the underlying asset.

Put Option: Buying Put option means if the asset prices decreases then value of put option price will increase. Hence the trader will buy the put option if he is expecting a downwards movement of the underlying asset.

When to close option: Every option buyer will exercise his right or close the option only when he is in profit because he has the right but not the obligation.

In case of call option, the buyer will be in profit when the underlying asset price will be higher than the strike price. It means the call option buyer have the right to buy the fixed amount of shares at lower price (strike price) than the market price (underlying asset price) within a fixed time-frame.

If the strike price is higher than the underlying asset price then the call option buyer will not exercise his option because buying from market will be cheaper for him.

In case of put option, the whole thing will be just opposite.

For drawing pay-off diagrams, we'll use following terms and formulas:

Strike Price is the pre-determined price at which option right will be exercised by its buyer.

Exercise Price is the price of the underlying asset when the option position was open.

Initial Cash flow (CF_0) i.e. cash inflow or cash outflow at the time of opening the trade. If option is bought then cash outflow and if it is sold then cash inflow.

Cash Flow at expiry or time T (CF_T) : This is the cash flow at expiry. This will be calculated depending on the underlying asset price at that time. To draw pay-off diagram, we will assume that all the options will be closed at expiry date only.

$$\text{Total Cash Flow} = \text{Initial Cash Flow} + \text{Cash Flow at expiry} = CF_0 + CF_T$$

Formulas: To determine cash flow at expiry, we will use the following formula:

at expire	
Buy call	$\max(\text{price at expiration} - \text{strike price}, 0)$
Sell call	$\min(\text{price at expiration} - \text{strike price}, 0)$
Buy put	$\max(\text{strike price} - \text{price at expiration}, 0)$
Sell put	$\min(\text{strike price} - \text{price at expiration}, 0)$
Stock	price at expire

I am explaining the first formula here so that one can understand the whole table. When the trader buys a call option, he will exercise his call option at expiry only when the underlying asset price will be higher than the strike price otherwise he will be in loss. So he should choose the maximum of (differences between underlying price and strike price) and “0”. Here “0” indicating that the call option buyer is not exercise his right.

Payoff diagram of a long call option

Suppose a trader buys Rs.400 strike price call option at the rate of Rs.40 per share. Let see what will be the payoff diagram at expiry.

Here,

Strike Price = Rs.400

Premium paid or option premium = Rs.40 per share, i.e. $CF_0 = -40$

If at expiration the stock price is below Rs.400, the option holder will not exercise its option. So loss is restricted to the paid premium i.e. Rs.40.

The break-even point is (exercise price + premium paid) = Rs.440

Stock price at time T	CF_0	CF_T	Total cash flow
350	-40	0	-40
360	-40	0	-40
370	-40	0	-40
380	-40	0	-40
390	-40	0	-40
400	-40	0	-40
410	-40	10	-30
420	-40	20	-20
430	-40	30	-10
440	-40	40	0
450	-40	50	10
460	-40	60	20
470	-40	70	30

Pay-off table of Long Call

Explanation of calculating CF_T

CF_T calculation when stock price at expiry was Rs.410 i.e. $CF_T = \text{Max}((410-400), 0) = 10$

By plotting the stock price at time T (first column) against X axis and Total cash flow (last column) against Y axis we get the below chart:

net cash flow

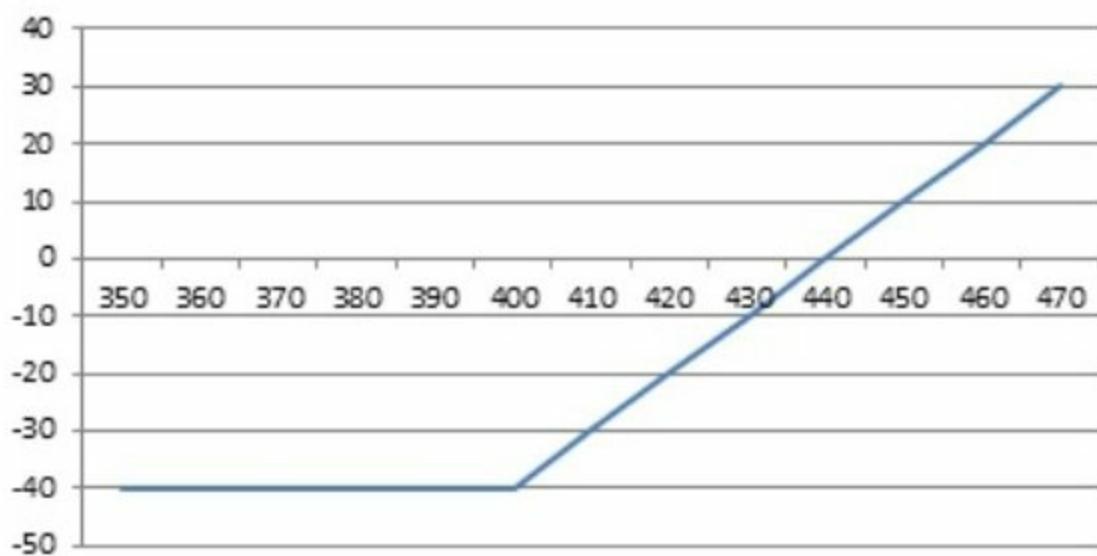


Image: Pay-off Diagram of a Long Call

Payoff diagram of a long Put option

Suppose a trader buys Rs.400 strike price Put option at the rate of Rs.40 per share. Let see what will be the pay-off diagram at expiry.

Here,

Strike Price = Rs.400

Premium paid or option premium = Rs.40 per share, i.e. $CF_0 = -40$

If the stock price at expiration is less than the exercise price then put has value. The max profit is Rs. 360 (Rs.400-Rs.40) when stock price closes to zero. If price at expiration period is more than Rs.400, the put buyer will not exercise his option, so max loss is equal to paid premium, i.e. Rs.40.

stock price at time T	CF_0	CF_T	Total cash flow
300	-40	100	60
310	-40	90	50
320	-40	80	40
330	-40	70	30
340	-40	60	20
350	-40	50	10
360	-40	40	0
370	-40	30	-10
380	-40	20	-20
390	-40	10	-30
400	-40	0	-40
410	-40	0	-40
420	-40	0	-40
430	-40	0	-40
440	-40	0	-40
450	-40	0	-40

Pay-off table of Long Put

Calculation of CF_T in the above table at level when stock price at expiry is Rs.370 is-

$$CF_T = \text{Max}((400-370), 0) = 30$$

By plotting the stock price at time T (first column) against X axis and Total cash flow (last column) against Y axis we get the below chart:

Total cash flow

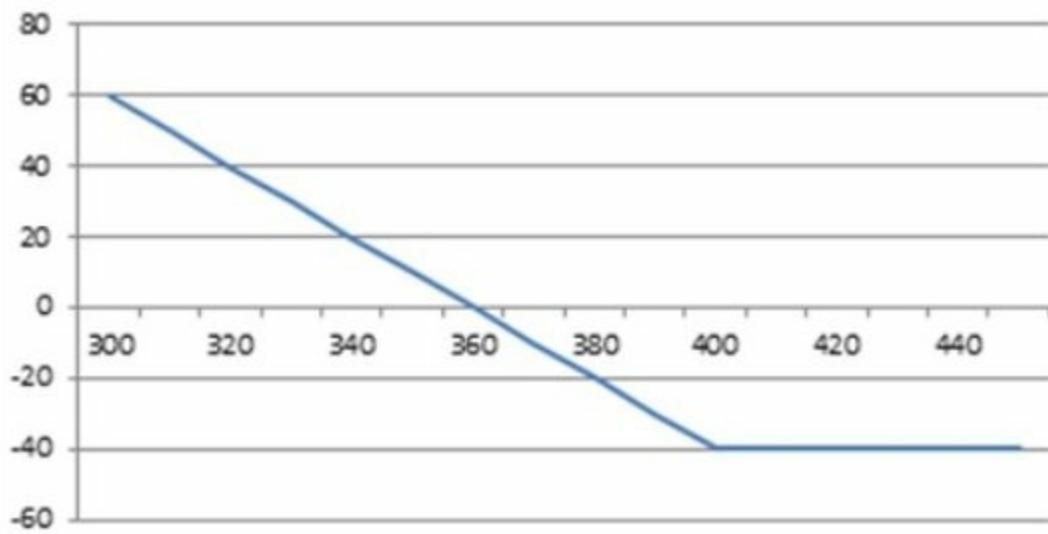


Image: Pay-Off diagram of Long Put

Payoff diagram of a Short call option

Suppose a trader sells Rs.400 strike price call option at the rate of Rs.40 per share. Let see what will be the pay-off diagram at expiry.

Here,

Strike Price = Rs.400

Premium received or option premium received = Rs.40 per share, i.e.
 $CF_0 = 40$

If the stock price expires below Rs.400 or less then the option holder will not exercise its option. So this option writer will keep the premium i.e. writer has the max profit of Rs.40.

Stock price at time T	CF_0	CF_T	Total cash flow
350	40	0	40
360	40	0	40
370	40	0	40
380	40	0	40
390	40	0	40
400	40	0	40
410	40	-10	30
420	40	-20	20
430	40	-30	10
440	40	-40	0
450	40	-50	-10
460	40	-60	-20
470	40	-70	-30

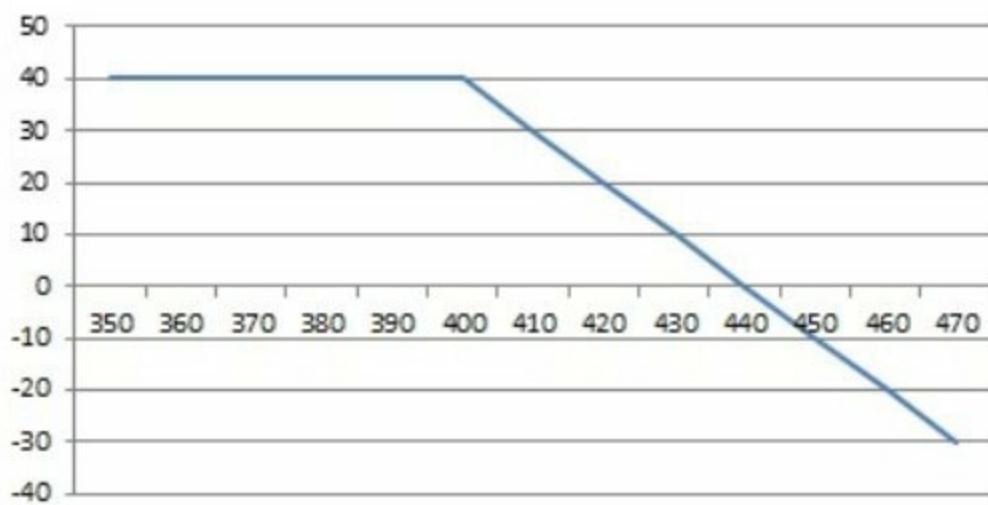
Pay-off table of short call

Formula of Calculating of CF_T at level when stock price at expiry is Rs.370.

$$\begin{aligned} CF_T &= \text{Min} ((\text{price at expiration}-\text{strike price}), 0) \\ &= \text{Min} ((370-400), 0) \\ &= \text{Rs.0} \end{aligned}$$

By plotting the stock price at time T (first column) against X axis and Total cash flow (last column) against Y axis we get the below chart:

Total cash flow



Pay-Off diagram of Short call

Payoff diagram of a Short Put option

Suppose a trader sells Rs.400 strike price put option at the rate of Rs.40 per share. Let see what will be the pay-off diagram at expiry.

Here,

Strike Price = Rs.400

Premium received or option premium received = Rs.40 per share, i.e.
 $CF_0 = 40$

If at expiration date, price is Rs.400 or higher, put buyer will not exercise its option, so the seller will keep the premium i.e. Rs40 which is maximum profit. Besides this, Breakeven is at $Rs.(400-40)=Rs.360$ level and there will be loss below this level.

stock price at time T	CF0	CFT	net cash flow
300	40	-100	-60
310	40	-90	-50
320	40	-80	-40
330	40	-70	-30
340	40	-60	-20
350	40	-50	-10
360	40	-40	0
370	40	-30	10
380	40	-20	20
390	40	-10	30
400	40	0	40
410	40	0	40
420	40	0	40
430	40	0	40
440	40	0	40
450	40	0	40

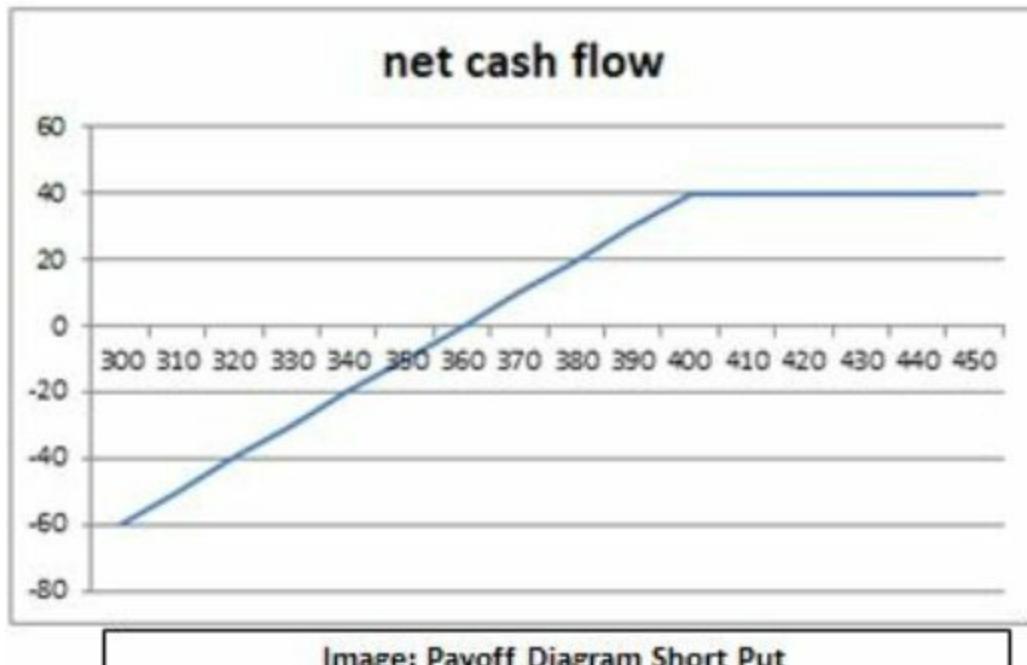
Pay-off table of short Put

Here, calculation of CF_T at the level when stock price at expiry is Rs.370

$$\begin{aligned} CF_T &= \text{Min} ((\text{strike price} - \text{price at expiration}), 0) \\ &= \text{Min}((400-370),0) \end{aligned}$$

= Rs. -30

By plotting the stock price at time T (first column) against X axis and Total cash flow (last column) against Y axis we get the below chart:



Option Strategy Pay-off Diagram

The option strategy pay-off diagram can be made just by mixing up and using the above formulas which are applicable. Now I will show you how to draw option strategy pay off diagram with the help of practical example.

Long straddle Pay-off diagram

I will share a practical example of trade from my experience to explain how to draw long straddle pay-off diagram.

This is the formation of long straddle when Infosys was trading at Rs.1080 level.

Type	Strike	Expiration	Symbol	Quantity	Opn/Cls	Price	Last	Volatility %	Commission	Margin	Debit
Long Call	1,080.00	25-Jan-2018	.INFYOPTSTK2...	1	Open	24.60	24.60	35.80	0.00	24.60	24.60
Long Put	1,080.00	25-Jan-2018	.INFYOPTSTK2...	1	Open	30.70	30.70	35.80	0.00	30.70	30.70

Here strike price of long call is Rs.1080 and option premium is Rs.24.60 per share.

Strike price of long put is Rs.1080 and option premium is Rs.30.70 per share.

Table: Profit & Loss of Long straddle option strategy

Stock price at expiration	cash flow Long call	Cash Flow Long Put	Total CFT
980	-24.6	69.3	44.7
990	-24.6	59.3	34.7
1000	-24.6	49.3	24.7
1010	-24.6	39.3	14.7
1020	-24.6	29.3	4.7
1030	-24.6	19.3	-5.3
1040	-24.6	9.3	-15.3
1050	-24.6	-0.7	-25.3
1060	-24.6	-10.7	-35.3
1070	-24.6	-20.7	-45.3
1080	-24.6	-30.7	-55.3
1090	-14.6	-30.7	-45.3
1100	5.4	-30.7	-35.3
1110	5.4	-30.7	-25.3
1120	15.4	-30.7	-15.3
1130	25.4	-30.7	-5.3
1140	35.4	-30.7	4.7
1150	45.4	-30.7	14.7
1160	55.4	-30.7	24.7
1170	65.4	-30.7	34.7
1180	75.4	-30.7	44.7

The above table was calculated was in the following way:

The first column is stock price at expiry. The difference between two rows of the stock price is Rs.10 and started from Rs.980 (1080-100) and ended at Rs.1180 (1080+100) level.

The second column is cash flow of long call at expiry day. The formula I have used to calculate this column is [$\{\text{Max} ((\text{stock price at expiry}-\text{strike price}), 0) - \text{absolute amount of initial premium paid}\} * \text{no of lot}$]

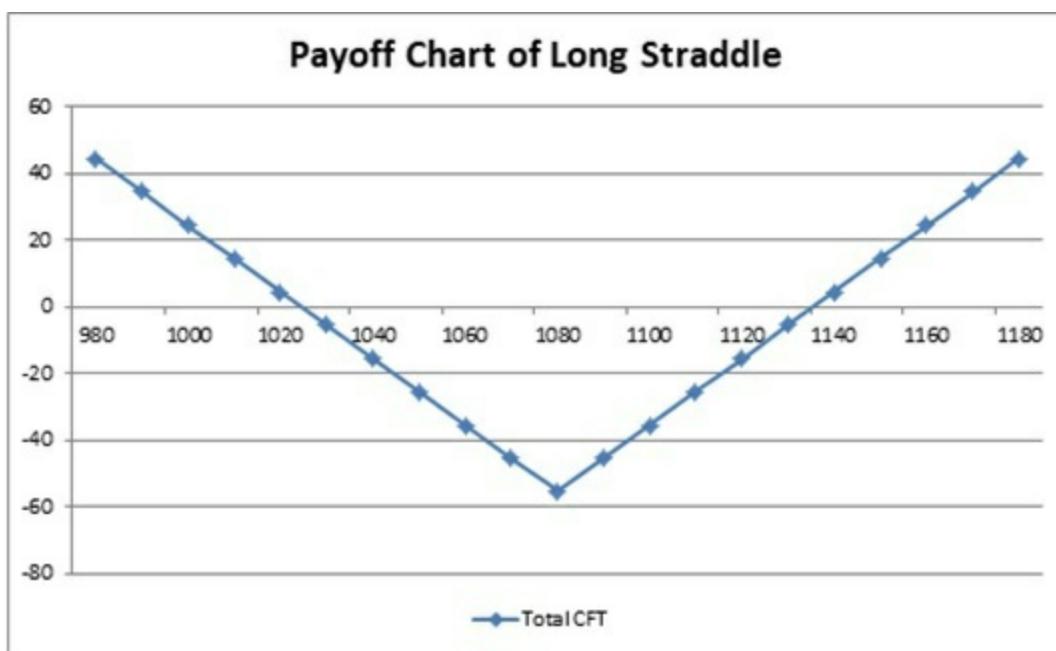
Number of lot is 1 here.

The third column is cash flow of long put at expiry. The formula I have used to calculate this column is [$\{\text{Max} ((\text{strike price}-\text{stock price at expiry}), 0) + \text{absolute amount of initial premium received}\} * \text{no of lot}$]

Number of lot is 1 here.

The last column is total cash flow from the trade. This is calculated by adding the amount of second column and third column of each row separately.

Now by plotting the value of first column and the last column, we get the following pay-off chart:



Pay-off Diagram of Bear Call option Strategy

I will share one practical example of trade from my experience to explain how to draw bear call pay-off diagram.

This is the formation of bear call option strategy when IOC was trading at Rs.410 level.

X	Type	Strike	Expiration	Symbol	Quantity	Opn/Cls	Price	Last	Volatility %	Commission	Margin	Debit	Investment
<input checked="" type="checkbox"/>	Short Call	400.00	28-Dec-2017	IOCOPTS...	1	Open	12.80	12.80	31.25	0.00	32.71	-12.80	19.91
<input checked="" type="checkbox"/>	Long Call	420.00	28-Dec-2017	IOCOPTS...	1	Open	3.90	3.90	31.25	0.00	3.90	3.90	3.90

Here, strike price of long call is Rs.420 and option premium is Rs.3.90 per share.

Strike price of long put is Rs.400 and option premium is Rs.12.80 per share.

Table: Profit & Loss of Bear Call option strategy

Stock price at expiration	cash flow Long call	Cash Flow short call	Total CFT
380	-3.9	12.8	8.9
385	-3.9	12.8	8.9
390	-3.9	12.8	8.9
395	-3.9	12.8	8.9
400	-3.9	12.8	8.9
405	-3.9	7.8	3.9
410	-3.9	2.8	-1.1
415	-3.9	-2.2	-6.1
420	-3.9	-7.2	-11.1
425	1.1	-12.2	-11.1
430	6.1	-17.2	-11.1
435	11.1	-22.2	-11.1
440	16.1	-27.2	-11.1
445	21.1	-32.2	-11.1
450	26.1	-37.2	-11.1

The above table was calculated was in the following way:

The first column is stock price at expiry. The difference between two rows of the stock price is Rs.5 and started from Rs.380 and ended at Rs.450 level.

The second column is cash flow of long call at expiry day. The formula I have used to calculate this column is [{Max ((stock price at expiry-strike price), 0) - absolute amount of initial premium paid}*no of lot]

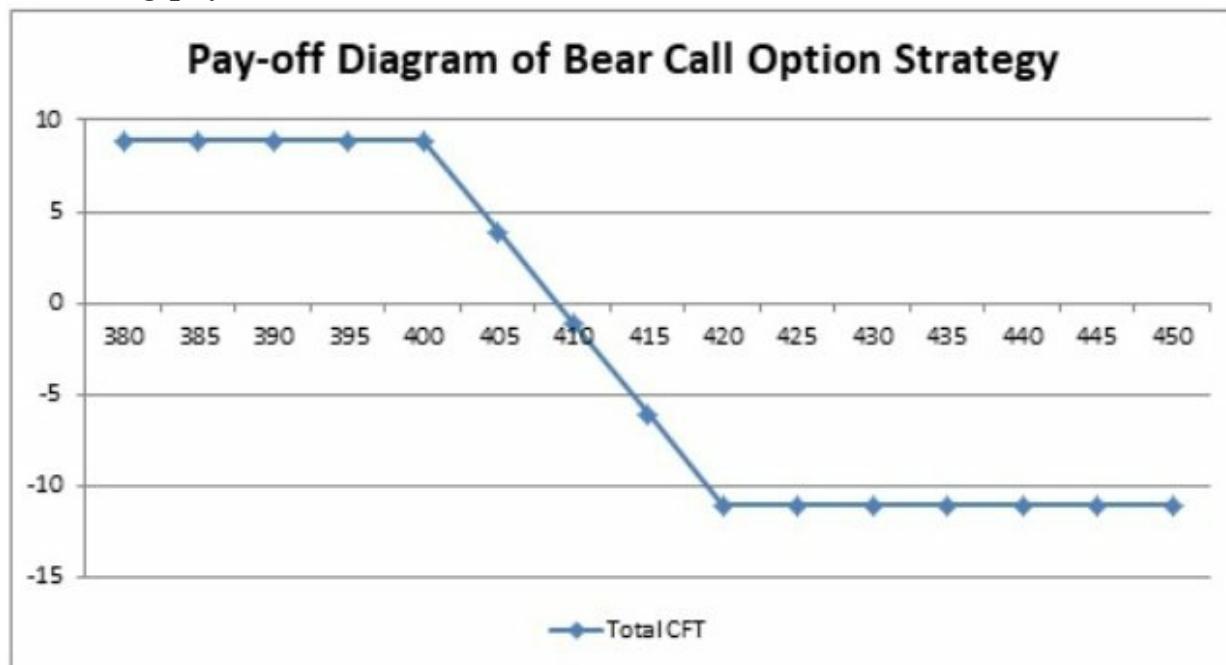
Number of lot is 1 here.

The third column is cash flow of short call at expiry. The formula I have used to calculate this column is $[\{\text{Min } ((\text{stock price at expiry-strike price}), 0) + \text{absolute amount of initial premium received}\} * \text{no of lot}]$

Here number of lot is 1.

The last column is total cash flow from the trade. This is calculated by adding the amount of second column and third column of each row separately.

Now by plotting the value of first column and the last column, we get the following pay-off chart:-



Conclusion:

You should draw pay-off diagram before entering into an option strategy because graphical representation is very important while entering into such trade. This graphical representation will help you to identify the practical situation. But there is one problem while creating pay-off chart in excels i.e. this will show you the pay-off diagram at expiry day and not before that. The break-even points generally differ in other days than expiry. Break-even points are changed every day due to option Greeks.

So, it is better to use any option strategy builder software (e.g. OptionsOracle software of Indian version) or make broker website to build option strategy payoff diagram. You can search the internet with the terms “option oracle for Indian market” or “free option strategy builder for Indian market” and you will get free software/online tools for creating the option strategy pay-off diagram.

Chapter 5:

Some Useful Option Strategies

Some Useful Option Trading strategies

Option strategy trading is the most profitable trading technique under less risk scenario. I will discuss some easy and profitable option trading technique in this book.

If you search the internet or read any ordinary book on option strategies, you will get more than 60 types of option strategies available in the market. You can also make option strategy as per the requirements. I will discuss 10 option strategies in this book which I regularly use in Indian option market. I am sure that you will be able to earn good regular income if you use these option strategies as per the guidelines provided here.

Option trading strategies can be classified into different categories depending on the expiry time frame or depending on volatility. This time frame may vary from 60 days before expiry to the date of expiry.

I personally do not like to keep any option trade open overnight if there is less than 10 days of expiry, Of-course, there are some exceptions as well.

Following are the option strategies which will be discussed.

Iron Condor Option strategy: This strategy is a low risk - limited profit earning option strategy. One can open this option strategy before 60 days of expiry on the low volatile stocks and can hold it for long time. The trader can also make necessary adjustments if necessary.

Horizontal Calendar Spread Option Strategy: This strategy can also be held for a long time. Time decay is the main reason of earning profit under this strategy.

Bear Put Spread and bear Call spread option strategies: These strategies can be open when the trader has the bearish view on the underlying stock or market.

Bull Put Spread and Bull Call Spread option Strategies: These strategies can be open when the trader has the bullish view on the underlying stock or market.

Reverse Iron Condor, Long Straddle and Long Strangle option strategies: These strategies are applicable under the situation when the trader is expecting volatility may increase and the stock may move on either side.

Short Put Ladder: This strategy is applicable when the trader is expecting that underlying stock may go down but he is not sure. The ratio of prediction of downside vs upside is almost 80:20.

I shall discuss the above option strategies one by one in different

chapters. The discussion of these strategies will be in the following manner:-

- Basic Idea
- When to applicable
- Construction
- Calculation of maximum profit, maximum loss and break-even points
- Explanation with case study and practical example
- Adjustment of the option strategy under different scenario

After discussing all the option strategies one by one, I'll discuss the points of selecting the right strategy at right time i.e. screener for each and every option strategy.

Chapter 5A: Iron Condor option Strategy

Iron Condor option strategy

This strategy is applicable for stocks which have low volatility. This is basically non-directional option strategy where there is high probability of earning limited profit with less risk.

This strategy has a positive impact of time frame if other parameters (i.e. underlying price, volatility) remain constant. It means if the stock price stays within the given range then the trader will earn more when expiry dates/time will decrease.

When to applicable

When the trader expects that there will be insignificant move in stock price or will be in narrow range up to the expiry period, he/she can opt for this strategy.

Normally this strategy should be applied to the index option or very less volatile stocks.

Method

Here is simple construction of Iron Condor option strategy:-

Sell 1 OTM Put

Buy 1 OTM Put (Lower Strike)

Sell 1 OTM Call

Buy 1 OTM Call (Higher Strike)

All above options should be expired on same expiry date.

The logic behind such action is, the trader expects that underlying price will be in between put writing strike price and call writing strike price upon expiration. But he buys both the call and a put to protect his position under unfavorable situations.

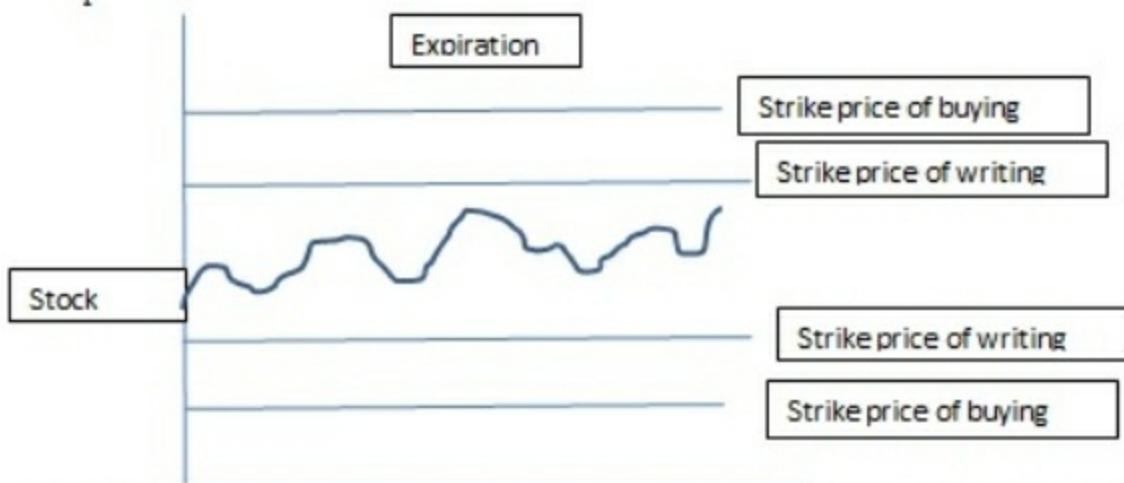


Figure: This is the ideal situation where trader earns maximum profit upon expiration

Iron Condor case 1

Suppose stock A is trading at Rs.45 as on 1st June. The trader executes an Iron Condor by buying a July 35 Put at Rs.1 , writing a July 40 put at Rs.2, writing a July 50 call at Rs.2 and buying another July 55call at Rs.1. Let's assume that the lot size is 100.

Analysis

Here, the trader is assuming that stock price will be in between 40 to 50 which are the strike prices of short put and short call. For the protection purpose and minimize his loss potential, he has bought one put and one call option.

Calculation of maximum Profit

Under this strategy, maximum profit is equal to net credit received at opening time of trade. Maximum profit is attained when the stock price is expired in between the call and put writing strike price.

Maximum Profit=Premium received from writing of call and put-premium paid for buying call and put – commission paid

In Iron condor case 1,

Maximum profit= (Premium received from writing the put + Premium received from writing the call-premium paid on buying the call and put)* Lot size

$$= (\text{Rs.}2 + \text{Rs.}2 - \text{Rs.}1 - \text{Rs.}1) * 100$$

= Rs.200

Note: We are not calculating the commission part because it may vary trader to trader

Maximum profit is achievable when Price of Underlying is in between Strike Prices of the Short Put and the Short Call.

Calculation of Maximum Loss

Maximum loss amount is limited but higher than maximum profit amount under this strategy. The trader will incur loss if stock price falls at or falls below the lower strike of the put purchased or rise above or equal to the higher strike of the call purchased. Under both the circumstances, maximum loss is will be:

Max Loss = $\{(\text{Strike Price of Long Call} - \text{Strike Price of Short Call}) * \text{Lot size}\} - \text{Net Premium Received} + \text{Commissions Paid}$

Max Loss Occurs When Price of Underlying \geq Strike Price of Long Call
OR

Price of Underlying \leq Strike Price of Long Put

In the above case study,

Maximum loss= $\{(55-50)*100\}-200 = (500-200) = \text{Rs. 300}$

Note: We are not calculating the commission part because it may vary from trader to trader

Breakeven Points

There are 2 break-even points in this strategy. The breakeven points can be calculated using the following formula:-

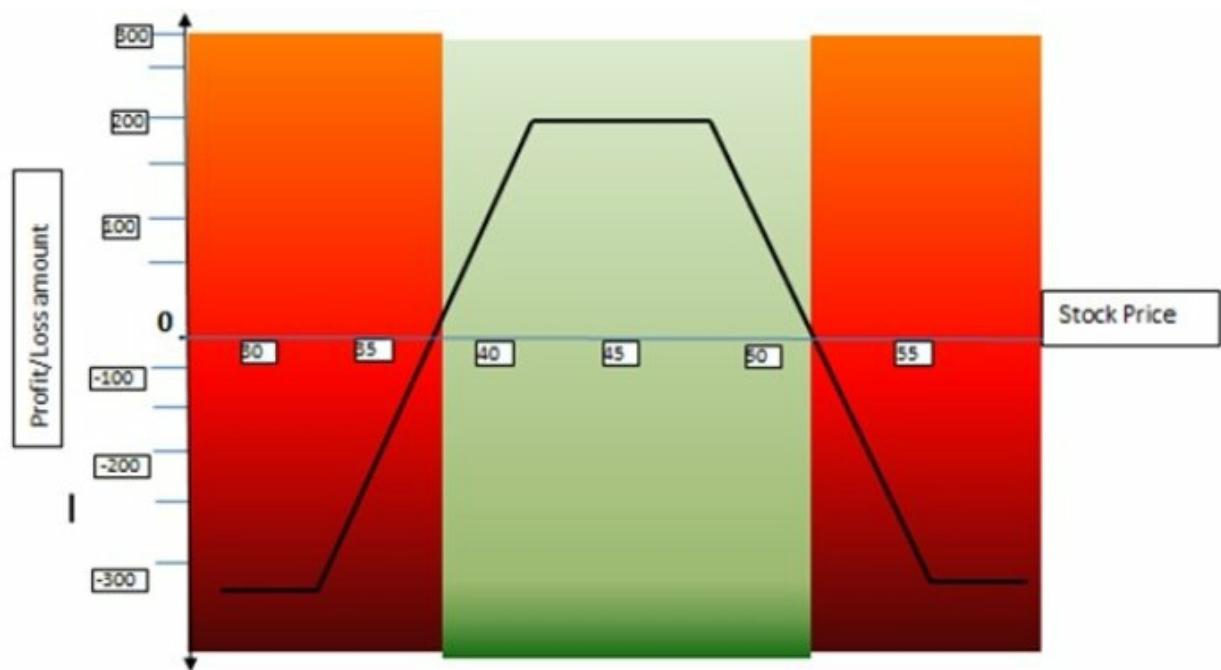
Upper Breakeven Point = Short Call strike price + Net Premium Received from each share i.e. before multiplying with lot size

Lower Breakeven Point = Strike Price of Short Put - Net Premium Received from each share

If we calculate the break-even points of the above case study, then-

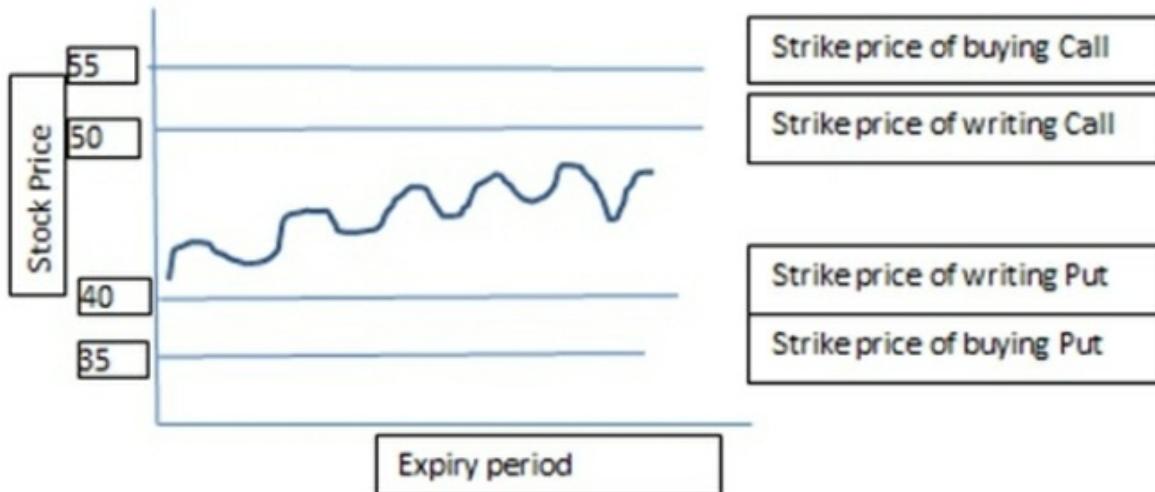
Upper break-even point=Rs.(50 + 2)=Rs.52

Lower break-even point= Rs.(40-2) =Rs.38



More Explanation of the above case study under different scenario

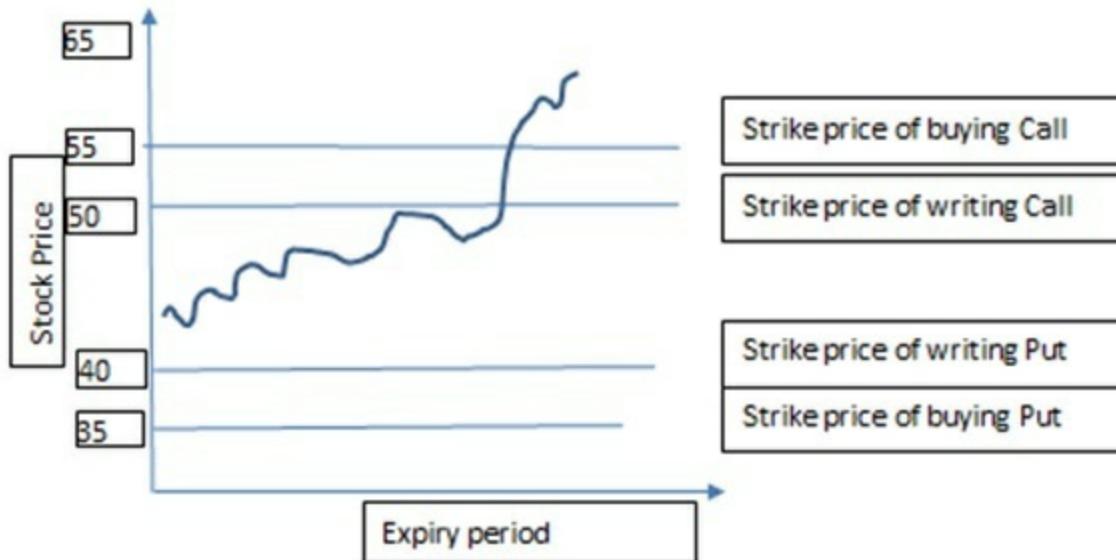
Scenario 1: Stock price expired at Rs.45 itself or expire in the range of 40-50 i.e. strike price of shorting put and call



Under such scenario, every call and put expires worthless at expiration date.

So, our net profit is equal to maximum profit i.e. (premium received from shorting call and put – premium paid for buying both call and put) i.e. Rs. 200.

Scenario 2: Stock price expired at Rs.61



Under such scenario, both the put options expire worthless. Hence, the trader keeps the premium received from selling the put.

Now let's see what happens to the call.

The price of the call of strike price 50 becomes 11 (61-50) and price of the call of strike price 55 becomes 6.

Therefore the trader incurs loss from the short call and the loss amount is Rs. (11-2)= Rs.9 premium on each share.

But the trader gains from purchased call as the stock price moves to Rs.61.

Net gain from purchased call= { (Price at expiry-strike price of buying call)*Lot size}-premium paid at the time of buying the call =(600-100) = Rs.500

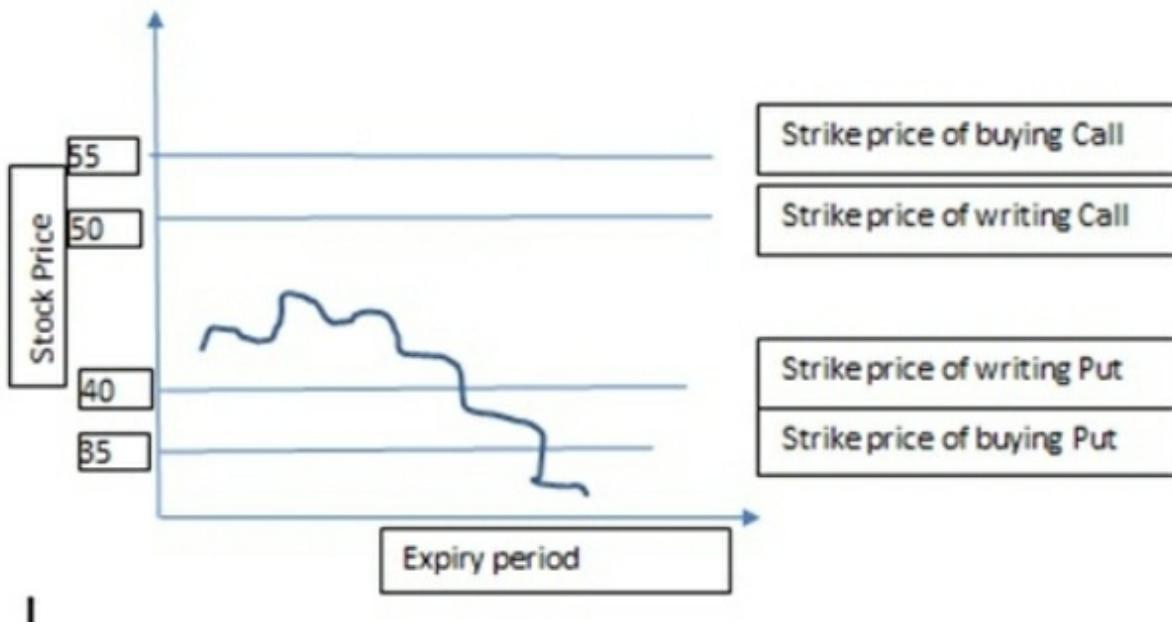
Hence total profit/loss from entire transaction

= Premium received from selling the put- premium paid on buying the put- loss from sold call+ profit from purchased call

$$=200-100-900+500 = (\text{Rs.}300) \text{ i.e. loss of Rs.}300$$

This is the maximum loss which the trader can incur from this trade.

Scenario 3: Stock price expired at Rs.29



Under such scenario, both call options expire worthless. Hence, the trader keeps the premium received from selling the call.

Now let's see what happens to the Puts.

Price of the Put of strike price 40 becomes 11 (40-29) and price of the Put of strike price 35 becomes 6.

Therefore the trader makes loss from the short Put and the loss amount is $(11-2) = \text{Rs.}9$ premium on each share.

But the trader gains from purchased Put as the stock price moves to Rs.29

Net gain from purchased Put = { (strike price of buying Put - Price at expiry) * Lot size } - premium paid at the time of buying the Put = $(600-100) = \text{Rs.}500$

Hence total profit/loss from entire transaction =

Premium received from selling the call - premium paid on buying the call - loss from sold Put + profit from purchased Put

$$= 200 - 100 - 900 + 500$$

$$= (\text{Rs.}300)$$

i.e. loss of Rs.300

This is the maximum loss which trader can incur from this trade.

IRON Condor Adjustment

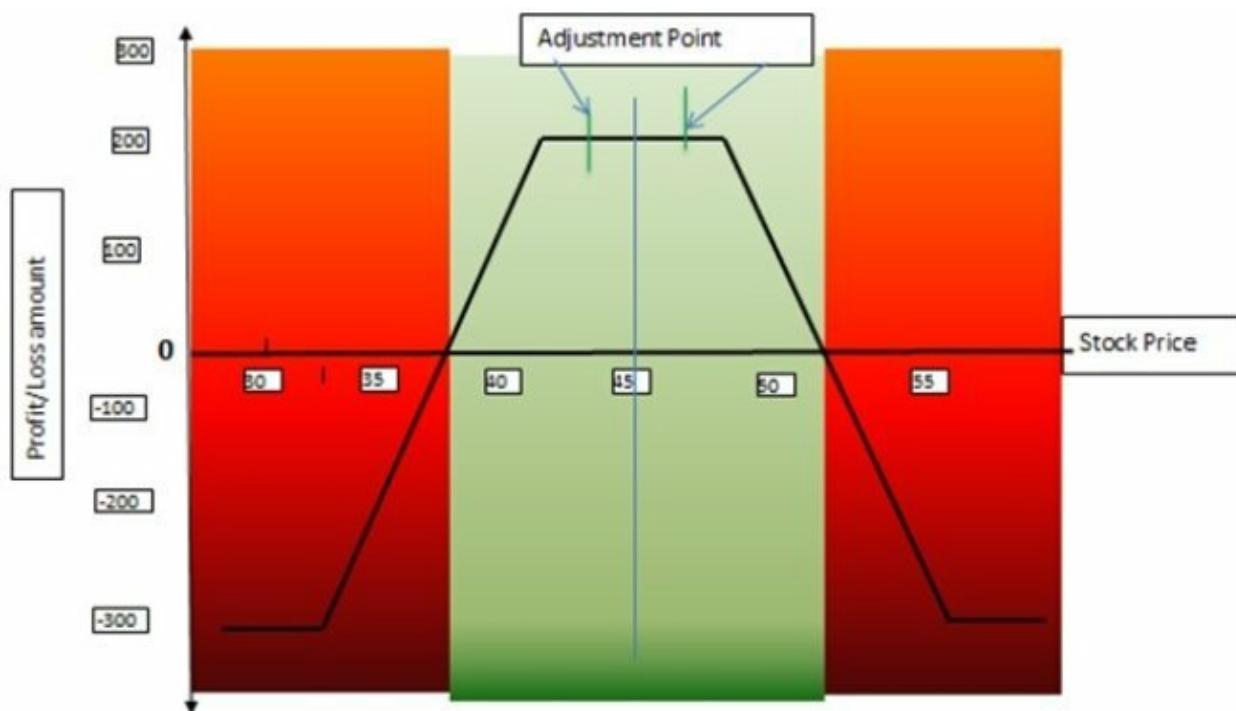
We have seen that under IRON Condor option strategy, loss potential is greater than Profit potential. If stock price goes beyond our range on either

side then we may face loss. So, what to do in this scenario? We can adjust our strategy by rolling over the unchallenged side (keeping the challenged side untouched) closer to the new stock price with taking a big credit. Let me explain in details.

Where to adjust

You can see the below image of the case study 1 (discussed in page no 47) where upper break-even point is at Rs.52 and lower break-even point is at Rs.38 (discussed earlier). Hence the middle point of upper and lower break-even point = $[38 + \{(52-38)/2\}]$ = Rs.45 i.e. where the stock is trading now.

Let's denote upper break-even point as UB, lower break-even point as LB and middle point as M.



Suppose, if the stock begins to rise or the stock falls then we may incur loss. Under such circumstances, we have to adjust our strategy.

Now you may have question in mind that "How can we understand that where to adjust?"

Here is the answer of your question. The middle point of both the break-even point and point M are the adjustment points.

More clearly,

When the stock price goes up and reaches to the point $[M + \{(UB-M)/2\}]$, we have to adjust our Put options.

On the other side, when the stock price goes down to mid-point of LB and M, we have to adjust our call options.

In this case, the adjustment points are $(45+ (52-45)/2)=$ Rs.48.5 on the upper side and $(45-(45-38)/2)=$ Rs. 41.5 on the lower side.

How to adjust

Suppose, the stock price is in rising mode and it goes to the level of Rs.49. Then we can take any one of these stands -

1. We can sit back and watch where the stock price goes till expiry
2. Book profit at this level
3. Make adjustment on the unchallenged side and create more credit

Here we can roll the put options to bring more credit and make break-even point closer to the recent stock price. Bringing more credit is important because if we have to face an unfavorable situation at the time of expiry then our loss will be less under such scenario whereas waiting for a favorable situation may bring more losses under unfavorable situation.

The total profit may not be achievable all time as shown at the time of making an iron strategy so always make a goal to book the profit when it have achieved more than 25% of the maximum profit. If you follow this technique, you can make 2-4% return from your investment per month basis; this is obviously a good return on investment.

Explanation with Practical Example

Here is a practical example illustrated with data and chart. An Iron condor option strategy on SBIN was created as on 21st July 2017, as I was expecting that SBIN will be within RS. 275-305 range till the august end. The stock price was trading at Rs.290 level at that time. Here is the composition of the strategy:-

Type	Strike	Expiration	Symbol	Quantity	Open/Cls	Price	Last	Volatility %	Commission	Margin	Debit	Investment	Delta	Gamma	Vega
Short Call	305.00	31-Aug-2017	SBINOPT...	1	Open	5.30	5.55	29.50	0.00	0.00	-5.30	-5.30	-0.32	-0.01	
Long Call	310.00	31-Aug-2017	SBINOPT...	1	Open	4.30	4.15	29.14	0.00	4.30	4.30	4.30	0.26	0.01	
Short Put	275.00	31-Aug-2017	SBINOPT...	1	Open	3.25	3.50	24.52	0.00	5.00	-3.25	1.75	0.24	-0.01	
Long Put	270.00	31-Aug-2017	SBINOPT...	1	Open	2.50	2.20	23.97	0.00	2.50	2.50	2.50	-0.17	0.01	

Image: Part Screenshot taken from OptionsOracle Software

Here you can see that call of strike price Rs.305 was sold and call of strike price Rs.310 was bought. On other side, Rs.275 strike price put was sold and Rs.270 strike price put was bought. From the whole transaction the net credit was Rs.1.75 per share.

This is the initial graph of the strategy where lower break-even point as on Rs.273.25 level and upper break-even point as on Rs.306.75 level.

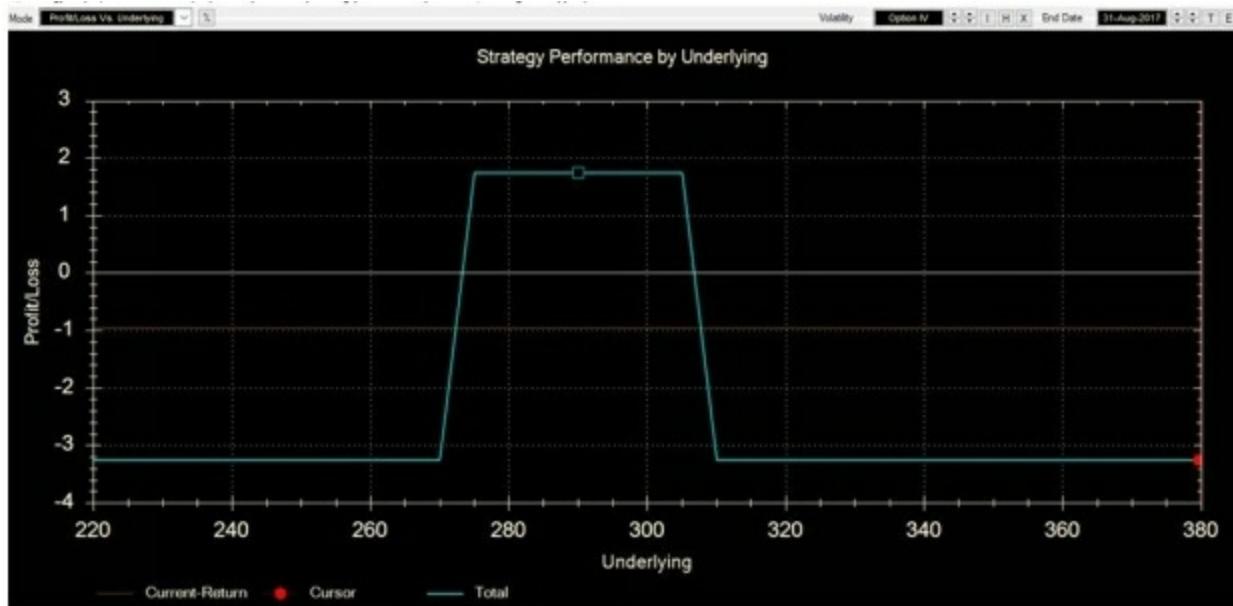


Image: Part Screenshot taken from OptionsOracle Software

In this problem, the adjustment points were on 281 and 298 levels.

Unfortunately, the stock price began to rise and reach at the upper level adjustment point i.e. on Rs.298 level as on 26July'2017. Now what would be the exit point? I can wait for downside movement or wait till expiry with a hope that the stock will stay within a range or I can make adjustment to get more credit.

I follow the third method. I roll out my put positions and bring more credit. For this reason, I first closed put positions and bought new put

positions which are closer to the new stock price.

Here I bought 290 strike priced put and sold 295 strike price put.

Underlying Data														
Symbol	SBIN	Calls	Puts	ITM	ATM	OTM	GRK	All	27 Jul	31 Aug	28 Sep			
No Auto	Refresh													
Last Update	11:32 Jul-26	Type	Strike	Expiration	Change	TimeVal...	Bid	Ask	Volume	Open Int	ImpV	ITM Prob	Delta	Gamma
Last Price	297.60	Put	255.00	31-Aug-2017	0	N/A	1.50	0.25	1.50	0	3,000	33.42	18.55	-0.062
Change	1.50 (0.51%)	Put	260.00	31-Aug-2017	0	-0.10	0.70	0.50	0.70	4	120,000	27.62	21.71	-0.054
Bd / Ask	297.55 297.60	Put	265.00	31-Aug-2017	0	N/A	1.00	0.70	1.00	0	111,000	26.55	25.09	-0.075
Dividend %	0.00 %	Put	270.00	31-Aug-2017	5	-0.10	1.25	1.10	1.25	16	618,000	25.32	28.65	-0.102
Imp / Hs %	55.36 N/A	Put	275.00	31-Aug-2017	0	-0.40	1.90	1.75	1.90	3	357,000	25.05	32.37	-0.147

Strategy Positions																
X	Type	Strike	Expiration	Symbol	Quantity	Open/Cls	Price	Last	Volatility %	Commission	Margin	Debit	Investment	Delta	Gamma	Vega
<input checked="" type="checkbox"/>	Short Call	305.00	31-Aug-2017	SBINOPT...	1	Open	7.05	7.35	28.40	0.00	0.00	-7.05	-7.05	-0.41	-0.01	
<input checked="" type="checkbox"/>	Long Call	310.00	31-Aug-2017	SBINOPT...	1	Open	5.50	5.40	27.66	0.00	5.50	5.50	5.50	0.33	0.01	
<input checked="" type="checkbox"/>	Long Put	290.00	31-Aug-2017	SBINOPT...	1	Open	5.60	5.35	23.59	0.00	5.60	5.60	5.60	-0.35	0.02	
<input checked="" type="checkbox"/>	Short Put	295.00	31-Aug-2017	SBINOPT...	1	Open	7.45	7.60	23.98	0.00	5.00	-7.45	-2.45	0.44	-0.02	

Image: Part Screenshot taken from OptionsOracle Software

Previously, I sold RS.275 put @ Rs.3.5 as on 21.7. Now buying back @ Rs.1.9 i.e. debit of Rs. 1.9 per share

Previously bought Rs.270 put @Rs.2.5 as on 21.7 and now closing the position by getting credit of Rs.1.1 per share

Rs.295 strike price put sells @ Rs.7.45 i.e. credit of Rs. 7.45 per share

290 strike price put 290 today (26.7.2017) @ 5.6 i.e. debit of Rs.5.6 per share

Hence,

Total credit/debit from the transaction = (-1.9+1.1+7.45-5.6)= RS. 1.05 per share

Previous credit was Rs.1.75

Total credit received = 1.05+1.75 = Rs.2.8 per share

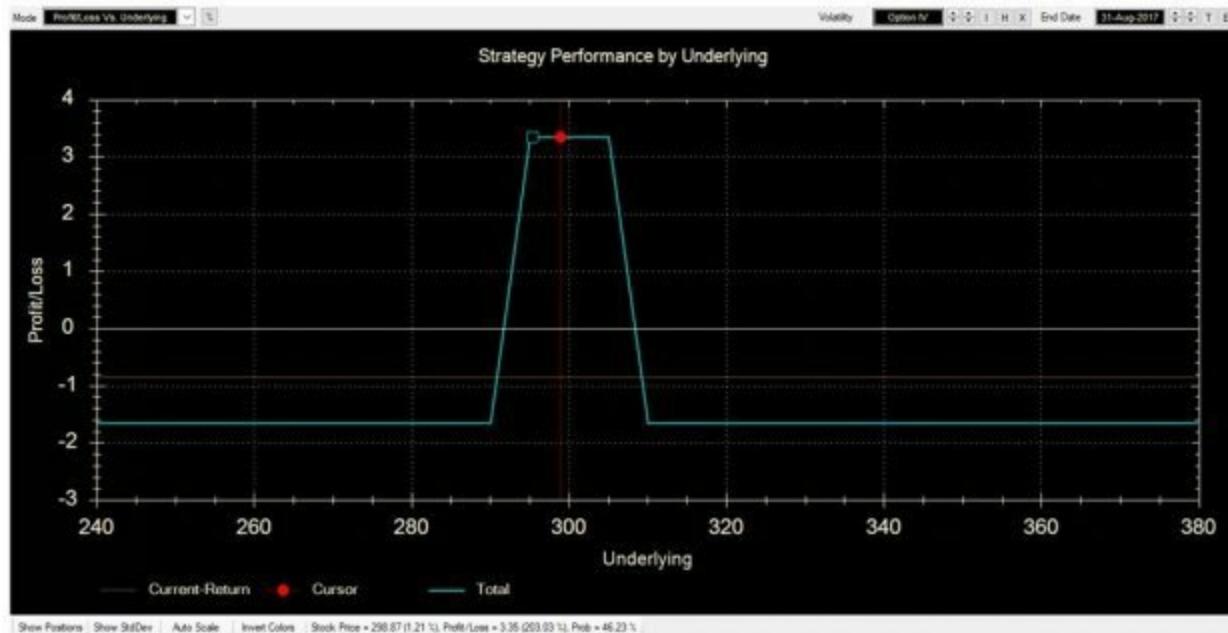


Image: Part Screenshot taken from OptionsOracle Software

Therefore, my new break even points were Rs. $(295-2.8)$ = Rs.292.2 and Rs. $(305+2.8)$ =Rs.307.8

In this way, one should adjust one's trade to collect more credits and be prepared to face an unfavorable situation with less amount of loss.

Chapter 5B: Horizon Calendar Spread option Strategy

Second Option Strategy: Horizontal Calendar Spread

Under Calendar Spread option strategy, the trader has to sell an option of the current month/period and buying a same type option of same strike price of the next month/period. The main purpose of this strategy is to earn premium of the near month short option after adjusting the time decay of the long option of far month.

The Indian Traders may face problem while using this strategy because of liquidity. As a trader, you may find that there is no liquidity on far month stock options but you can make good profit on weekly basis by applying this strategy on bank nifty options.

Construction of Calendar Spread

Selling of near month option (Put/Call)

Buying of far month same type of option (i.e. call or put) of same strike price

However, one can use this strategy in numerous ways depending on his view on share price/market as a whole.

I will tell you the correct timing of using different types of this strategy as a trader.

For simplification, I have classified calendar spread as:-

- Neutral Calendar Spread
- Neutral to Bullish Calendar Spread
- Neutral to Bearish calendar Spread

From the name it is clear that if trader is fully neutral on future movement of the underlying price then he should select the neutral calendar spread and he would select the other two if he has slightly bullish or bearish views on the underlying price respectively.

Neutral Calendar Spread	Neutral to Bullish Spread	Neutral to Bearish Spread
Buy at the money call or put of far month and sell at the money call or put of near month.	As a rule the trader can build this strategy with any of the higher strike (more than the underlying current market price) call or put option but made this strategy with call option will be beneficial. Long one out of the money call option of far month and short one near month same strike call option.	Like the previous one, the trader is free to build this strategy with any lower strike price (less than underlying current market price) call or put option but it is wiser to make this strategy with put options.
The trader should keep one thing in mind that if the actual stock price is little bit more than at the money strike price is then he should use put options to made the strategy and vice versa.	Why call options? Because , higher strike put option will be in the money options which will be costly .On the other hand, if the trade goes in favour of the trader, then the near month in the money put option will not expire worthless. So, the trader will actually earn a little profit or may incur loss.	The reason behind such action is just like the previous one. Because the lower strike call options will be in the money call options whereas put options will be out of the money put options.
For example, the current price of stock A is 77. The trader wants to build a neutral calendar strategy using at the money options of strike price 75. Under such a situation, the cost will be less if the trader chooses the put options to build the strategy instead of call options. Because, here call options are currently slight in-the-money options, so maximum profit and maximum loss both will be high in case of strategy building from call option.	For example, the current price of stock A is Rs.77. The trader has a view that the stock price will not move downwards because there is a very strong support at Rs.76 level. But the trader also not fully bullish on this stock because the current market situation. He has a view that price may stay in between 76 to Rs.82 range. So he made the strategy with the call options of strike price of Rs.80	e.g. Let assume that the current market price of stock A is 74 and there is strong resistance at Rs.75 level. So, the trader has a view that the stock may move downwards but there is also 70% chance of the stock to stay range bound. So, the trader build this neutral to bearish strategy with the put options of strike price of Rs.70.

Calculation of Maximum Profit

This strategy has limited profit potential. The maximum possible profit for this strategy is premium collected from sale of near month option minus any time decay of the longer term option.

In this strategy, trader will earn maximum profit if stock price expires at the strike price of the option.

It means for the neutral calendar strategy, the trader will earn maximum profit if stock price remains same at the time of expiry.

Another point to mention here that it is not possible to calculate maximum profit beforehand like previous strategies because options are taken from two different months and increase /decrease of implied volatility would change the price of options differently.

Calculation of Maximum Loss

The maximum possible loss is equal to the initial debit taken to build this strategy. It occurs when stock price goes down or moves up significantly at the time of expiry.

Finding out break-even points

It is not possible to calculate break-even points in calendar spread strategy as different expiration cycles are used.

However, being a trader you should keep in mind few things before opening a calendar spread option. Those are:-

1. If implied volatility increases then the trade will make more money. So, it is advisable to open calendar spread option under low to average implied volatility condition.
2. If stock price moves too far from the strike price under neutral calendar strategy, the trader may lose.

When to close the position

It is not possible for the trader to correctly predict maximum profit amount or break-even points in this strategy so it is wiser decision not to wait till expiry. Try to close the trade before expiry as after expiry, the far month option may lose its time value.

Normally, I close my calendar spread position when my existing position

makes 25% of profit of the net initial debit.

More Explanation with Practical Example

Example 1: Neutral Calendar Example with ITC

ITC was trading at Rs.258.80 level on 17th November. I had neutral view on ITC for next 7 days. So, I built a calendar neutral strategy with call options of strike price Rs.260.

Please note that I made this strategy with the calls here because calls are slightly ‘Out-of-the-money’. Always try to build this strategy with ‘Out-of-the-money’ options.

What would happen if I made this strategy with puts? There is Rs.5 difference in the strike prices. So, Rs.260 is the closest strike price with underlying current market price. If I would made this strategy with Rs.260 strike price put options then the put options will be in-the-money options and if the options were with Rs.255 strike price put options then that option strategy will be neutral to bearish calendar spread option with slightly bearish view.

Here is the strategy table:-

Type	Strike	Expiration	Symb	Quar	Opn/Cls	Price	Last	Volatility %	Commission	Margin	Debit	Investment	Delta	Gamma	Vega	Theta
Long Call	260.00	28-Dec-2017	ITC...	1	Open	7.80	7.80	26.28	0.00	7.80	7.80	7.80	0.49	0.02	0.32	-0.12
Short Call	260.00	30-Nov-2017	ITC...	1	Open	3.25	3.25	26.25	0.00	20.69	-3.25	17.44	-0.45	-0.04	-0.15	0.26

Image: Part Screenshot taken from OptionsOracle Software

As you can see that I bought call option of December month (i.e. far month) @ Rs.7.80 per share and sold call option of November month i.e. near month @ Rs. 3.25 per share. Here both strike price was Rs.260. The lot size of ITC was 2400 shares.

At opening time of my trade, net debit was $(7.80 - 3.25) = \text{Rs.}4.55$ per share. This was my probable maximum loss.

As we know that, it is not possible to calculate the correct profit or breakeven points under this strategy because of different expiry period. So, I took a strategy to close down my option. The strategy was either my stoploss will be 10% loss on the net initial debit or 20-25% profit on my net initial debit.

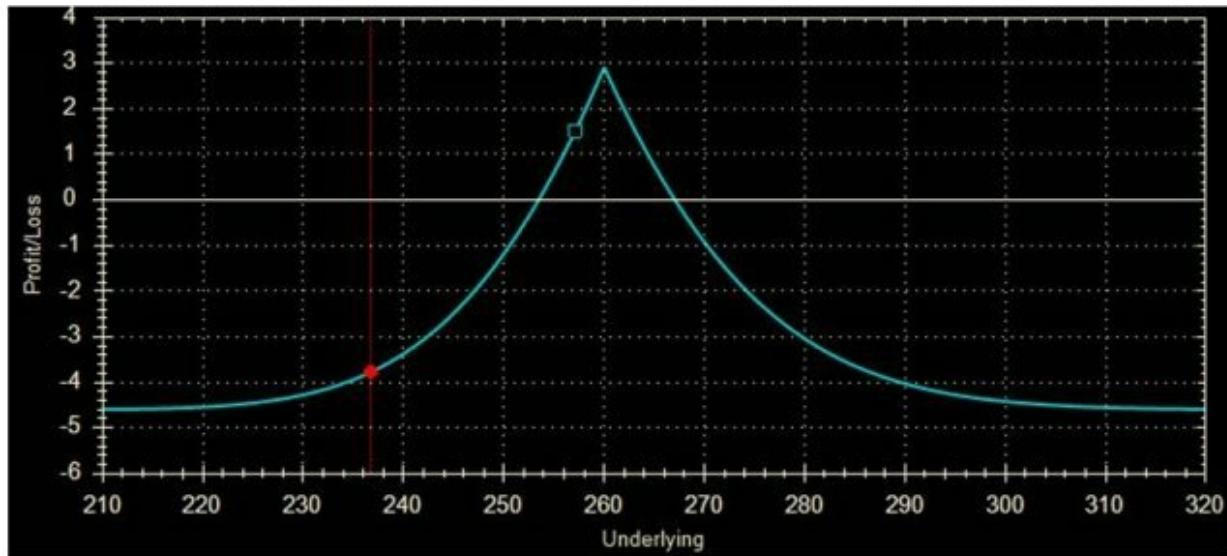


Figure: The possible Pay-off diagram of this strategy. The breakeven points or the maximum profit showing in the graph may change with the change in implied volatility.

Image: Part Screenshot taken from OptionsOracle Software

Now, let see what would happen to the position under different scenario:-

Scenario 1:If stock price goes up

If underlying stock price goes up then the long call gains value but short call loses value.

Another thing to mention here that normally the volatility increases as stock price goes down and vice versa. As I have already told that increased volatility helps the option trader to gain more in this strategy.

So, if stock price moves up after a certain level as decided from the support/resistance analysis in technical analysis then it is better to close down the position or the exit/stoploss policy, whichever is earlier.

Scenario2: If the stock price stays the same

This is the best scenario in neutral calendar spread strategy. The only one point to watch that there should not be reduction in implied volatility percentage. If there is chance of decreasing the implied volatility then close down the position.

Scenario 3: If the stock price goes down

Normally, if the stock price goes down, volatility increases. This increased volatility will increase our option price but of-course, this down

movement is favourable for upto a certain level.

As you can see the chart, the total strategy will start to lose money if the stock price goes down significantly. So, closely watch your position and close down the position with profit of 10%-25% of the net debit.

Example2: Neutral to Bullish Calendar Spread on ONGC

On the same day i.e. 17th November, I took position on another calendar spread with slightly bullish view. I made this strategy on ONGC.

The current price of ONGC was Rs.177.70. I built this strategy with calls of strike price Rs.180.

Type	Strike	Expiration	Symbol	Quar	Opn/Cls	Price	Last	Volatility %	Margin	Debit	Investment	Delta	Gamma	Vega	Theta
Short Call	180.00	30-Nov-2017	ONGC...	1	Open	3.20	3.20	42.13	14.22	-3.20	11.02	-0.43	-0.04	-0.10	0.28
Long Call	180.00	28-Dec-2017	ONGC...	1	Open	6.15	6.15	32.65	6.15	6.15	6.15	0.47	0.02	0.22	-0.10

Image: Part Screenshot taken from OptionsOracle Software

As you can see, I sell November call of strike price 180 @ 3.2 and bought call of December month of same strike price @ Rs.6.15.

So, the net debit was Rs. (6.15-3.20) = Rs.2.95 per share. The lot size was 3750. The net margin/capital was required to open the trade was Rs.75000.

My target was more than 25% of net debit i.e. more than Rs.0.75 per share as profit or 10% of net debit i.e. Rs.0.30 per share as my stoploss.

Fortunately, my prediction was correct and within next 3 working days I booked my profit.

On 22nd November, the market price of ONGC was Rs.180.70 and the prices of the options were as follow:-

Type	Strike	Expiration	Symbol	Quar	Opn/Cls	Price	Last	Volatility %	Margin	Debit	Investment	Delta	Gamma	Vega	Theta
Short Call	180.00	30-Nov-2017	ONGC...	1	Open	3.95	3.95	35.28	14.46	-3.95	10.51	-0.54	-0.04	-0.10	0.25
Long Call	180.00	28-Dec-2017	ONGC...	1	Open	8.05	8.05	34.41	8.05	8.05	8.05	0.54	0.02	0.22	-0.11

Image: Part Screenshot taken from OptionsOracle Software

As stock price moved up, I made loss on the short call. I bought back the short call @ Rs.3.95 per share. So loss from the short call was =Rs.(3.2-3.95)=Rs. -0.75 per share

I got good profit on my long call. I sold the long call @ Rs. 8.05 . So profit from the long call was Rs. (8.05-6.15)=Rs.1.90 per share.

Therefore, net profit/loss was:-

Profit from the long call - loss from the short call = Rs.(1.90-0.75) =

Rs.1.15 which is almost 39% of net debit and is beyond my expectation.

Hence total profit from the whole trade was = lot size*profit per share =
3750*Rs.1.15 =Rs.4312.50

So , return on my capital was (Rs.4312/Rs.75000)=5.75%

Of course, 5.75% return on capital within 3 days is a good return.

Conclusion: This option strategy is always not profitable in Indian markets due to low liquidity in next month's options. But you can use this strategy on bank-nifty on its weekly options.

Chapter 5C: Bear Put and Bear Call Spread option Strategy

Third Option Strategy: Bear Put and Bear Call Spread option Strategy

The next option strategy is Bearish option strategies i.e. strategies with bearish views. If a trader has an expectation that the stock may go down within a short time frame, he may open any bearish option strategy.

The most popular bearish option strategies are bear call spread and bear put spread. The outcome or views of both the option strategies are almost same. The only difference is in their construction. The bear call spread is made with calls and bear put spread is made with puts.

Firstly I will discuss both the spread strategies and then I will explain how the trader will choose the correct one from these two.

Bear Put Spread

The trader can apply this strategy when he has a view that the underlying stock price will go down moderately in near future.

Construction

Buy 1 ITM Put

Sell 1 OTM Put

This option strategy can be built by buying one higher strike in-the-money put option and buying one lower strike out-of-the-money put option with same expiration of the same underlying.

This option strategy has limited downside profit with limited upside risk.

Pay-off graph

This is the pay-off chart of bear put strategy made on Yes bank. Yes bank was trading at Rs.309 level at that time. I bought Rs.320 strike price put @Rs.17.40 and sold Rs.300 strike price put @ Rs.7.30 of December expiry.

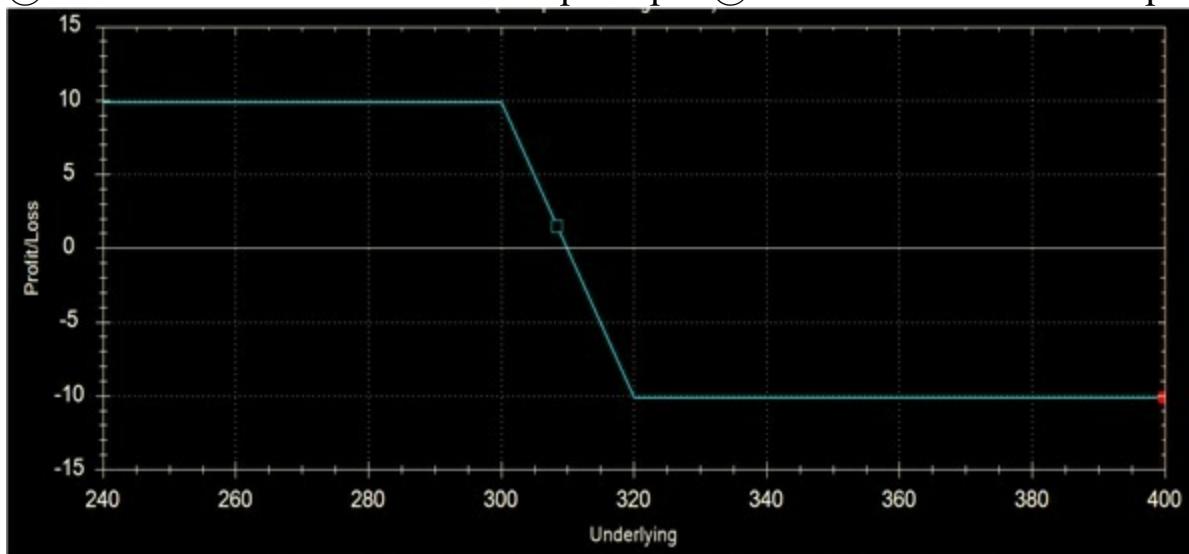


Image: Part-Screenshot taken from OptionsOracle Software

As you can see there was limited profit potential if the underlying stock price moves downside and vice versa.

Calculation of Maximum profit

The trader will earn maximum profit in this strategy if the underlying stock price moves below strike price of the short put on expiry day. Under such circumstances, both options will expire as in-the-money option but

bought put (higher strike) will have higher intrinsic value than the sold (lower strike) put.

Therefore, the maximum profit under this strategy is equal to the difference between the strike prices of two puts minus net debit taken at the time of opening the trade.

Maximum profit = (strike price of long put-strike price of short put) - (net debit taken at time of opening the trade)

Maximum profit in the above problem is:

= (strike price of long put-strike price of short put) – (net debit taken at the time of opening the trade)

$$= (320-300)-(17.40-7.30) = \text{Rs.}9.90 \text{ per share}$$

Calculation of maximum Loss

The trader will incur maximum loss if the underlying asset price expires above strike price of the long put. The maximum loss amount is equal to net debit taken by the trader while entering into the trade.

Hence, **Maximum loss = Net Premium paid at the time of opening the trade**

In the current example, net premium paid= Premium of long put-Premium of short put

$$=\text{Rs.}17.40-\text{Rs.}7.30 = \text{Rs.}10.10 \text{ per share}$$

How to determine the breakeven Point

As you can see in the pay-off graph, there is one break-even point. If the underlying stock price moves above the break-even point then the trader will incur loss and if it moves below break-even point then the trader will earn profit.

The formula of breakeven point is:-

Break-even point = Strike price of long put-Net premium paid at the time of opening the trade

In this example, break-even point is at $(320-10.10) = \text{Rs.}309.9$ level.

Note: As the bear put spread strategy consists of one long put and one short put of the same expiry, so if the other things are constant then increase/decrease of volatility will offset the changes of the two options each-other.

In the same way, time decay also have little effect as one option is short and another is long and both are of same expiry.

Practical Example

I would like to share one of my experiences on this strategy with you.

One of my trades on this strategy was on Bank of Baroda. The stock was trading at Rs.181 level as on 22nd November'2017 and there was a strong resistance at 181.90 levels and next support level was Rs.171.50 level. Other indicators were also indicating that the stock will move down in recent time. The expiry date was on 30th November'2017.

So, I opt for this strategy. I bought the put of strike price 185 @ Rs.7 per share and sold Rs.180 strike price put @ Rs.4 per share.

Type	Strike	Expiration	Symbol	Quantity	Opn/Cls	Price	Last	Volatility %	Debit	Investment
Long Put	185.00	30-Nov-2017	BANKBA...	1	Open	7.00	7.00	50.95	7.00	7.00
Short Put	180.00	30-Nov-2017	BANKBA...	1	Open	4.00	4.00	50.95	-4.00	10.46

Image: Part-Screenshot taken from OptionsOracle Software

The lot size was 3500 shares. My total margin requirement (span margin + exposure margin) was Rs.80,000 to open this trade.

Net debit at the time of opening trade was Rs.(7-4)=Rs.3 per share.

Break-even point = Strike price of long put - Net premium paid at the time of opening the trade

= Rs. (185-3) = Rs.182 level

Maximum profit = strike price of long put-strike price of short put - net debit taken at time of opening the trade

= Rs.(185-180-3) = Rs.2 per share

Maximum loss = Net Premium paid at the time of opening the trade = Rs.3 per share

I close this strategy on the expiry day i.e. as on 30th November'2017. The stock was trading at Rs.171.80 level at that time. The option prices were as follow:-

Type	Strike	Expiration	Symbol	Quantity	Opn/Cls	Price	Last	Volatility %	Debit	Investment
Long Put	185.00	30-Nov-2017	BANKBA...	1	Open	12.40	12.40	93.60	12.40	12.40
Short Put	180.00	30-Nov-2017	BANKBA...	1	Open	7.85	7.85	93.60	-7.85	5.95

Image: Part-Screenshot taken from OptionsOracle Software

As underlying price moved below the strike price of both the option at expiry so both the options were expired as in-the-money options. Here I incurred loss on the short put and booked profit on the long one.

Profit from the long put = Rs. (12.40-7) = Rs.5.40 per share
Loss from short put = Rs. (7.85-4) = Rs.3.85 per share
Hence, My net gain from this strategy = Rs. (5.40-3.85) = Rs.1.55 per share

The lot size was 3500 shares. So my total profit was Rs. $(3500 * 1.55) =$ Rs.5425

My return on Investment for 7 working days was Rs. $(5425 / 80,000) * 100 = 6.78\%$ i.e. 21.3% monthly return (considering 22 working days in a month) which is obviously a good percentage of return.

Adjustments in Bear Put spread option Strategy

Normally a trader faces two situations after entering into an option strategy. Those are:-

1. Underlying asset price moves up
2. Underlying asset price moves down

First Situation: Underlying price moves up

Suppose, underlying stock price moves up and crosses strike price of the long put option. Then the trader makes more analysis and further analysis indicates that underlying asset price has broken the recent resistance level and will continue its uptrend. Under such scenario, the trader should close the short put option when underlying price crosses the long put option and will short an ITM put option to build bull put spread.

For example, Say Stock A is trading at Rs.154 level and the trader was expecting that the stock may go below Rs.148 level within a month. So, he bought an ‘in-the-money’ put of strike price Rs.160 level and sold an ‘out-of-the-money’ put of strike price Rs.150 level.

Now, the stock price started moving up within a week and crossed Rs.160 level. The trader then closed the short put by buying back that and short one ‘in-the-money’ put option of strike price Rs.170 and formed a bull put spread position.

Second Situation: The underlying price moves down beyond the strike price of short put

As I have discussed, the trader will earn maximum profit if underlying stock price reaches or moves below the strike price of short put.

Under such circumstances, the trader may close his position and can book maximum profit.

Otherwise if his analysis shows that there is further downside then he has two options to do:

- a) He may sell the short put option and simply allow the long put option to make further profit.
- b) He may close out-of-the-money short put option and can short further out-of-the-money put option to book more profit.

Bear Call Spread

The purpose of using bear call spread is same as bear put option spread strategy. The trader can opt for this strategy if he has bearish view towards any particular stock or the market.

Construction

Buy 1 OTM Call

Sell 1 ITM Call

This strategy can be implemented by buying one ‘out-of-the-money’ (higher strike) call option and selling one ‘in-the-money’ (lower strike) call option of the same underlying asset of same expiring period.

Pay-Off Graph

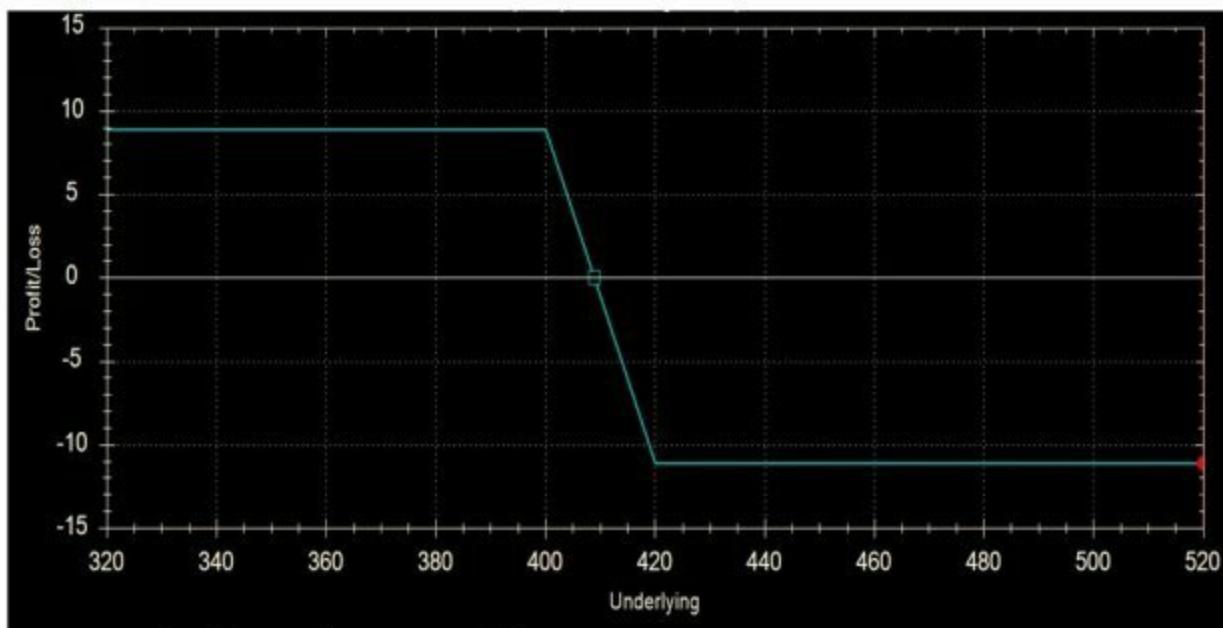


Image: Part Screenshot taken from OptionsOracle Software

The above image is the pay-off chart of bear call strategy made on IOC. This stock was trading at Rs.409 level at that time. I bought Rs.420 strike price call @Rs.12.80 and sold Rs.400 strike price @ Rs.3.9 call of December expiry.

Calculation of Maximum profit

The trader will earn maximum profit in this strategy if underlying stock price moves below the strike price of the short call on expiry day. Under such circumstances, both options will expire worthless.

Maximum profit under this strategy is equal to net premium received at

the time of opening the trade.

Maximum profit = premium received on sold call – premium paid on long call

In this problem, Maximum Profit = Rs.(12.80-3.90) = Rs. 8.90 per share

Calculation of maximum Loss

The trader will incur maximum loss if underlying asset price expired above the strike price of the long put. Maximum loss amount is equal to the difference between the strikes prices of 2 options minus the net credit received from trade.

Maximum loss = (strike price of long call-strike price of short call) – net credit received at the time of opening the trade

In this problem, maximum loss = Rs.(420 - 400 - 8.9) = Rs.11.1 per share

How to determine breakeven Point

As you can see, like the previous one, there is also one break-even point. If underlying stock price moves above break-even point then the trader will incur loss and if moves below break-even point then the trader will earn profit.

The formula of breakeven point is:

Break-even point = Strike price of short call + Net premium received at the time of opening the trade

In this example, break-even point is at (400+8.90) =Rs.408.90 level.

Note: As bear call spread strategy consists of one long put and one short put of the same expiry, so if other things are constant then increase/decrease of volatility will offset the changes of two options each-other.

In the same way, time decay also have little effect as one option is short and another is long and both are of same expiry.

Explanation of the given example

I have already shared the practical example. Now I would like to explain the reason of choosing this strategy on Indian Oil Corporation (IOC) and would like to share the result.

There was strong resistance at Rs.412 level and strong support zone at Rs.390 level in IOC at that time. The leading indicators were also giving clear sign of short term downtrend. So I choose this bear call strategy.

I open this position as on 18th December'2017.

X	Type	Strike	Expiration	Symbol	Quantity	Open/Cls	Price	Last	Volatility %	Commission	Margin	Debit	Investment
<input checked="" type="checkbox"/>	Short Call	400.00	28-Dec-2017	.IOCOPTS...	1	Open	12.80	12.80	31.25	0.00	32.71	-12.80	19.91
<input checked="" type="checkbox"/>	Long Call	420.00	28-Dec-2017	.IOCOPTS...	1	Open	3.90	3.90	31.25	0.00	3.90	3.90	3.90

Image: Part Screenshot taken from OptionsOracle Software

The lot size was 1500 shares. My total margin requirement (span margin +exposure margin) was Rs.90,000 to open this trade.

The particulars were calculated as follows:

Probable Maximum Profit = Rs.8.90 per share

Probable Maximum loss = Rs.11.1 per share

Break-even point is at Rs.408.90 level

I closed this strategy on expiry day i.e. as on 28th December'2017. The stock was trading at Rs.391.10 level at that time. The option prices were as follow:

X	Type	Strike	Expiration	Symbol	Quantity	Open/Cls	Price	Last	Volatility %	Commission
<input checked="" type="checkbox"/>	Short Call	400.00	28-Dec-2017	.IOCOPTS...	1	Open	0.05	0.05	27.69	0.00
<input checked="" type="checkbox"/>	Long Call	420.00	28-Dec-2017	.IOCOPTS...	1	Open	0.05	0.05	27.69	0.00

Image: Part-Screenshot taken from OptionsOracle Software

As underlying price moved below strike price of both the options at expiry, both options were expired as out-of-the-money options. Here I incurred loss on the long call and booked profit on the short one.

Profit from the short call = Rs.(12.80-0.05) = Rs.12.75 per share

Loss from long call = Rs.(3.90-0.05) = Rs.3.85 per share

Hence, profit from the whole trade = Rs.(12.75-3.85) = Rs.8.90 per share

Total profit = Rs.8.90*1500=Rs.13,350

My return on Investment for 9 working days was $\text{Rs.}(13350/90,000)*100 = 14.83\%$ i.e. 36.25% monthly return (considering 22 working days in a month) which is obviously a good percentage of return.

Adjustment of bear call spread option Strategy

A trader has to face at least two situations while trading in an option strategy, one is if stock price moves up and another is if stock price moves down.

Situation 1: If the underlying price moves up

If stock price is moving up and has crossed the long call strike price on upper side then adjust your trade. But before adjusting trade, you first need to analyze the situation. If you are not sure on further upside movement of the stock price and still expecting that market may move down then open iron condor option strategy. Keep the existing situation and open a put spread by selling the put of strike price same to short call strike price and buy a lower strike price put. This situation will create an Iron condor situation where profit will be in between a particular range of stock price and loss will be very low beyond that range on either side.

Suppose stock price moves more up and has crossed next resistance level at upper side and your analysis is indicating more upside in near term. In that case close down your current short call option and the put option strategy and open an ‘out-of-the-money’ call option to create bull call option spread strategy.

As this put option strategy was a credit spread, so your final loss will be minimized.

Situation 2: If underlying stock price moves down below the strike price of the short call

I have discussed that the trader will earn maximum profit if underlying price moves below the strike price of the short call. Under such circumstances, it is always advisable to close down your position and book profit.

But if you are sure on more downside then you can close down the current short call and open another short call option at lower strike price to get more credit.

Which strategy is better; Bear call Spread or Bear Put Spread?

This is a long debatable and confusing question because purposes of both the strategies are same.

The trader may use any of these strategies if he is expecting that the

market may go down (moderately bearish) in near term.

Although the purpose and pay-off graph of both the strategies are same but there are some fundamental differences between two. The most important difference between two is that **Bear Call Spread** is a credit spread and it brings money into the trader's account. Whereas, **Bear Put Spread** is a debit spread and it costs the trader to buy it.

The bear call strategy consists of 1 OTM call long and 1 ITM call short whereas bear put spreads can be implemented by buying an in-the-money put option and selling an out-of-the-money put option of same underlying security with the same expiration date.

Now, you may have one question that what is the right strategy for trading?

Well, it depends on some criteria like, the implied volatility, time to expiry and differences between maximum losses between two strategies. Let me explain one by one.

Implied Volatility: As a trader, you may face two situations of implied volatility, e.g. high implied volatility or low implied volatility relative to their historic volatility.

If implied volatility is relatively high, it may be better to be in a net credit position. Hence, bear call spread will be a better option here.

Alternatively, if implied volatility is low, a net debit position i.e. bear put spread will be more attractive.

Time to expiry: If there is longer time for option expiry then credit spread is always beneficial because you can make more profit from time value. If there is more than 30 days of option expiry while keeping other things constant then always choose the bear call spread option for trade.

Maximum Profit and loss: Calculate maximum profit and loss amount before opening trade under both the strategies. Always look for the trade which has less amount of maximum loss. In case, the trade did not go in favour of you then loss amount will be less. Of course, you can make adjustment of the trade at any time before closing the trade.

In conclusion, I would like to say that if you are unable to decide which strategy will be better under certain circumstances then my recommendation is to select the bear call spread strategy. Because bear call strategy is a credit spread and you can make money from time decay even the stock remains stagnant at the time of expiry.

Chapter 5D: Bull call and Bull put option Strategies

Fourth Strategy: Bull call and bull put option strategy

The next option strategy is Bullish option strategies i.e. strategies with bullish view. If a trader has an expectation that stock may go upside within a short time frame, he may open any bullish option strategy.

The most popular bullish option strategies are bull call spread and bull put spread. The outcome or views of both the option strategies are almost same. The only difference is in their construction. The bull call spread is made with calls and bull put spread is made with puts.

Bull Call option Strategy

The trader may use this strategy when he is moderately bullish on underlying asset. To implement this strategy the trader should buy one in-the-money call option and sell one out-of-the money call option of the same underlying of same expiry period.

The logic behind buying in-the-money call option is that the trader is bullish on the stock and selling the option means to protect or minimize losses in case the trade goes wrong.

Construction

Buy 1 ITM Call

Sell 1 OTM Call

Pay-Off Diagram

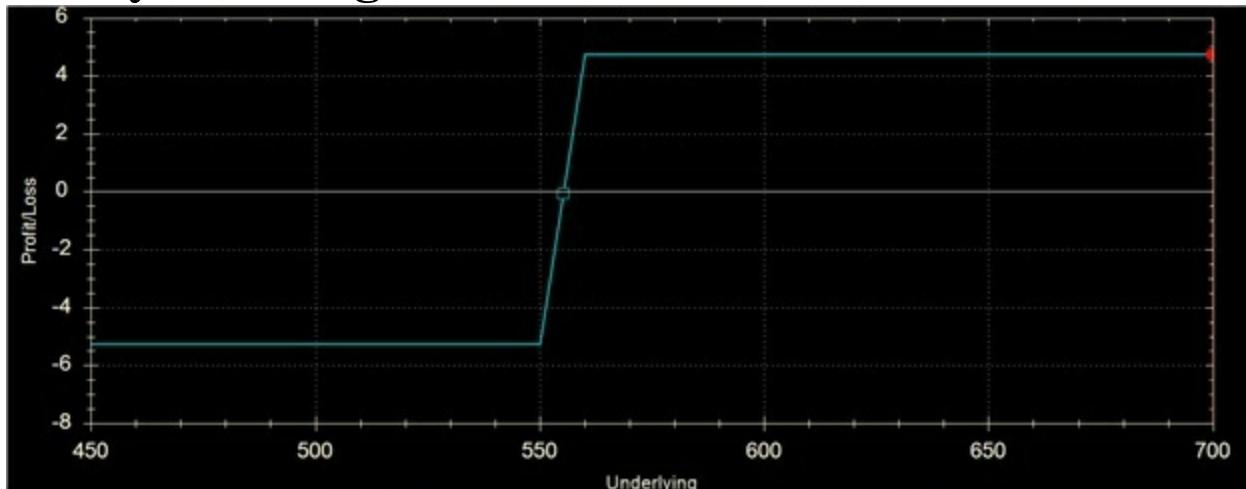


Image: Part-Screenshot taken from OptionsOracle Software

This is the pay-off chart of bull call spread strategy made on *Axis Bank*. This stock was trading at Rs.555.20 level at that time. I bought Rs.550 strike price call @Rs.20.90 and sold Rs.560 strike price @ Rs.15.65 call of January expiry. The lot size was 1200 shares.

Calculation of maximum Profit

The trader will earn maximum profit if stock price rises above the higher strike price (short call option) of the option strategy.

The formula for calculating maximum profit under bull call strategy is:

Maximum Profit = Strike Price of short call - Strike Price of long call - Net Premium paid at the time of opening the trade

Maximum profit of the above example is:

Maximum profit of Axis Bank Bull Call Spread strategy = Rs.[(560-550)+(15.65-20.90)] = Rs.4.75 per share

Calculation of maximum Loss

Maximum loss occurs under this strategy when stock price expired below strike price of the long call. The maximum loss amount is equal to the net debit paid at the time of opening the trade.

i.e.

Maximum Loss = Net premium paid at the time of opening the trade

In the above example, the maximum loss amount = Rs.(20.90-15.65) = Rs.5.25 per share

Finding out break-even point

Here the trader will earn profit if stock price expires above break-even and vice versa.

The formula for calculating break-even point in this strategy is:

Break-even Point = Strike price of long call+ net premium paid at time of opening the trade

Here break-even point = Rs. (550+5.25)=Rs.555.25

Closing down above example

I have already mentioned that I opened bull call spread strategy on Axis Bank as on 29th December'2017 with a moderate bullish view on underlying stock. The stock was trading at Rs.555 level at time of opening the trade.

The structure of the strategy was as follows:-

Strategy Positions															
X	Type	Strike	Expiration	Symbol	Qua	Open/Cls	Price	Last	Volatility %	Debit	Investment	Delta	Gamma	Vega	Theta
<input checked="" type="checkbox"/>	Short Call	560.00	25-Jan-2018	AXISBANK...	1	Open	15.65	15.65	39.19	-15.65	28.77	-0.47	-0.01	-0.46	0.58
<input checked="" type="checkbox"/>	Long Call	550.00	25-Jan-2018	AXISBANK...	1	Open	20.90	20.90	40.06	20.90	20.90	0.56	0.01	0.45	-0.58

Image: Part Screenshot taken from OptionsOracle Software

I closed down my position as on 9th Jan'2018 when stock was trading at Rs.568.70 level because there was a strong resistance at Rs.570 level. The stock attempted two times on that day to cross Rs.570 level but failed. So, I prefer to close down my position.

However, my target was fulfilled because stock price was above the short call strike price. Option prices at the time of closing were:

Strategy Positions															I	
X	Type	Strike	Expiration	Symbol	Qua	Open/Cls	Price	Last	Volatility %	Debit	Investment	Delta	Gamma	Vega	Theta	I
<input checked="" type="checkbox"/>	Short Call	560.00	25-Jan-2018	AXISBANK...	1	Open	21.50	21.50	36.23	-21.50	24.00	-0.60	-0.01	-0.45	0.53	I
<input checked="" type="checkbox"/>	Long Call	550.00	25-Jan-2018	AXISBANK...	1	Open	28.00	28.00	37.10	28.00	28.00	0.68	0.01	0.42	-0.50	I

Image: Part Screenshot taken from OptionsOracle Software

Therefore net Profit/loss from the whole trade was:

(Long call selling Price-Long call buying price) + (Credit received from the short call-buyback price of short call) * lot size

$$= \text{Rs.}[(28-20.90)+(15.65-21.50)]*1200 = \text{Rs.}1.25*1200 = \text{Rs.}1500$$

As per theory, my profit per share should be equal to maximum profit because it was already trading above Rs.560 level i.e. short call strike price. But I did not get that because of reduction in volatility. At the time of opening the trade the volatility percentage was higher than the closing time.

As you know, reduction in volatility causes reduction in option premium. In this case, this was the reason of lower profit.

Example on Yes bank

I would like to share another example of bull call spread strategy made on Yes bank. I opened this strategy on Yes Bank as on 5th Jan 2018. I was moderately bullish on all the banking stocks at that time and I chose Yes Bank because its volatility is slightly high compared to other banking stocks. High volatility or high daily percentage change would help me to get my profit within a short time frame if I am right at my prediction.

I bought Rs.320 strike price call @Rs.19.85 and sold Rs.340 call @Rs.9.95 when stock was trading at Rs.332.90 level. The lot size was 1750 shares. My total margin requirement was Rs.60,000.

Strategy Positions															I	
X	Type	Strike	Expiration	Symbol	Qua	Open/Cls	Price	Last	Volatility %	Debit	Investment	Delta	Gamma	Vega	Theta	I
<input checked="" type="checkbox"/>	Long Call	320.00	25-Jan-2018	YESBANKO...	1	Open	19.85	19.85	46.36	19.85	19.85	0.68	0.01	0.24	-0.37	I
<input checked="" type="checkbox"/>	Short Call	340.00	25-Jan-2018	YESBANKO...	1	Open	9.95	9.95	48.09	-9.95	16.68	-0.43	-0.01	-0.27	0.42	I

Image: Part Screenshot taken from OptionsOracle Software

Net Premium Paid at the time of opening the trade = Rs.(19.85-9.95) = Rs.9.90 per share

Probable Maximum profit = **Strike Price of short call-Strike Price of long call- Net Premium paid at the time of opening the trade**

$$= \text{Rs.}(340-320-9.90) = \text{Rs.}10.1 \text{ per share}$$

Probable maximum loss amount equal to the net premium paid.

I closed this position as on 9th Jan when stock was trading at Rs.338 level.

Strategy Positions																
X	Type	Strike	Expiration	Symbol	Qua	Open/Cls	Price	Last	Volatility %	Debit	Investment	Delta	Gamma	Vega	Theta	
<input checked="" type="checkbox"/>	Long Call	320.00	25-Jan-2018	YESBANKO...	1	Open	25.50	25.50	43.61	25.50	25.50	0.78	0.01	0.21	-0.30	
<input checked="" type="checkbox"/>	Short Call	340.00	25-Jan-2018	YESBANKO...	1	Open	13.00	13.00	44.06	-13.00	14.32	-0.54	-0.01	-0.28	0.40	

Image: Part Screenshot taken from OptionsOracle Software

Net profit from the whole transaction = Profit from long call + loss from short call

$$= \text{Rs.}[(25.50-19.85)+(9.95-13)] = \text{Rs.}2.60 \text{ per share}$$

Total Profit from the whole transaction = profit per share*lot size = $\text{Rs.}2.60 * 1750 = \text{Rs.}4550$

Therefore, my rate of return for 3 working days was:

$\text{Rs.}4550 / \text{Rs.}60000 = 7.58\%$ i.e. 55.59% monthly return considering 22 working days in a month.

Adjustment of Bull call spread

We can face three types of situations after opening a bull call spread option strategy. The first one is movement of stock price to the upside as expected. The second one is very slow movement of the stock to the upside and the last one is downwards movement.

If stock price moves as per our expectation then it is advisable to book profit as per our target.

If stock price moves too slowly then we can roll the short call strike in to the next month expiration and create a bull call calendar spread.

If stock price moves down then we can close down the current short call option and short another call option whose strike price is lower than the long option strike price. This will create bear call strategy position.

Bull Put Spread

The purpose of bull put spread is same as bull call spread i.e. when trader expecting moderate upside movement on the underlying asset. The fundamental difference lies in their construction. Bull call spread consists of calls and it is a debit spread whereas bull put spread consists of puts and is a credit spread.

Construction

Buy 1 Out-of-the money Put

Sell 1 In-the-money Put

Bull put option spread position can be open by selling an in-the-money put option and buying an out-of-the-money put option on same underlying stock with the same expiration date.

Pay Off Diagram

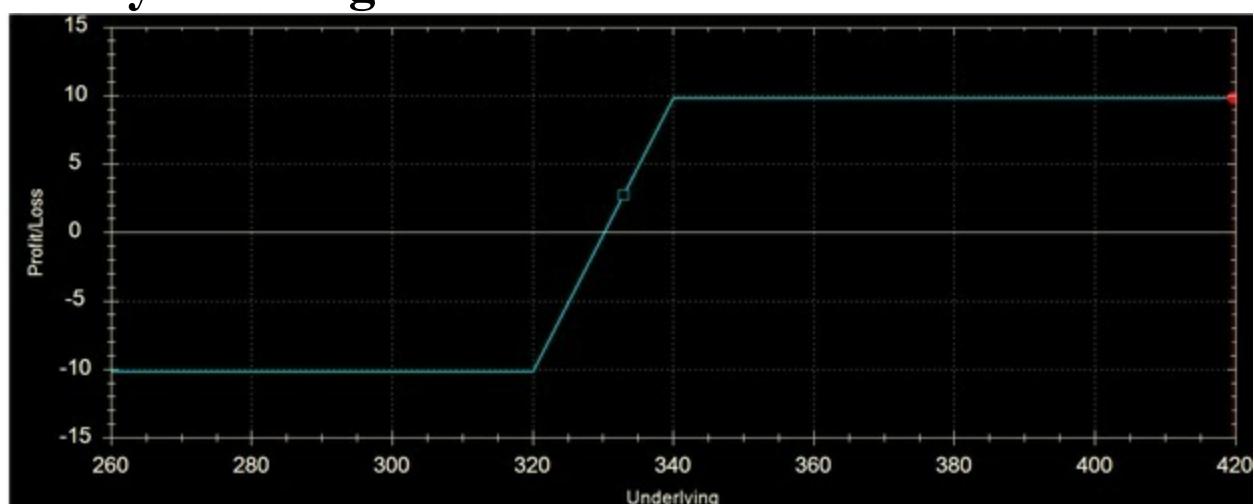


Image: Part-Screenshot taken from OptionsOracle Software

This is typical pay off diagram of bull put diagram, same like bull call pay off diagram.

The above payoff diagram is the bull put spread made on Yes Bank made as on 5th Jan'2018 when the stock was trading at Rs.332 level. I bought Rs.320 strike price put @Rs.6.15 per share and sold Rs.340 strike price put @Rs.16 per share. The lot size of Yes Bank was 1750 shares.

Strategy Positions															
X	Type	Strike	Expiration	Symbol	Quantity	Opn/Cls	Price	Last	Volatility %	Commission	Margin	Debit	Investment	Delta	Gamma
<input checked="" type="checkbox"/>	Long Put	320.00	25-Jan-2018	YESBAN...	1	Open	6.15	6.15	43.24	0.00	6.15	6.15	6.15	-0.31	0.01
<input checked="" type="checkbox"/>	Short Put	340.00	25-Jan-2018	YESBAN...	1	Open	16.00	16.00	44.36	0.00	26.63	-16.00	10.63	0.57	-0.01

Image: Part Screenshot taken from OptionsOracle Software

Maximum Profit calculation

The trader earns maximum profit when stock price expires above the short put strike price. The maximum profit amount is equal to the net credit taken at the time of opening the trade because both the options expire worthless at that level.

Maximum Profit=Net premium received at the time of opening the trade

Maximum profit on the above example is:-

Net Credit received at the time of opening the trade= Premium received from short put-premium paid on the long put

$$= \text{Rs.}16 - \text{Rs.}6.15 = \text{Rs.}9.85 \text{ per share}$$

Maximum Loss Calculation

The trader will incur maximum loss if stock price expires below the long put strike price. Maximum loss amount is equal to the difference of the strike price of two puts minus net initial credit received.

Therefore,

Maximum Loss= strike price of short put-strike price of long put-net credit received at time of opening the trade

Maximum loss amount on the above example is:-

$$\text{Maximum loss} = \text{Rs.}340 - \text{Rs.}320 - \text{Rs.}9.85 = \text{Rs.}10.15 \text{ per share}$$

Finding out break-even point

The trader can find out the break-even point of bull put spread by using the following formula:-

Break-even point= Strike price of short put-net premium received

Break-even point in the above example is:-

$$\text{Break-even point} = \text{Rs.}340 - \text{Rs.}9.85 = \text{Rs.}330.15$$

Closing off the given example

I closed my pre-mentioned position as on 11th Jan'2018 when the stock was trading at Rs.339 level.

Strategy Positions																
X	Type	Strike	Expiration	Symbol	Quan	Opn/Ck	Price	Last	Volatility %	C	Debit	Investment	Delta	Gamma	Vega	Theta
<input checked="" type="checkbox"/>	Long Put	320.00	25-Jan-2018	YESBANK...	1	Open	4.10	4.10	44.98		4.10	4.10	-0.23	0.01	0.20	-0.33
<input checked="" type="checkbox"/>	Short Put	340.00	25-Jan-2018	YESBANK...	1	Open	11.35	11.35	43.26		-11.35	15.84	0.49	-0.01	-0.26	0.42

Image: Part Screenshot taken from OptionsOracle Software

$$\begin{aligned} \text{Net Profit per share} &= \text{Loss from long put} + \text{Profit from short put} \\ &= \text{Rs. } [(4.10 - 6.15) + (16 - 11.35)] = \text{Rs. } 2.60 \end{aligned}$$

Total Profit = Rs. 2.60 * 1750 = Rs. 4,550 which is a good return on investment.

Adjustment of Bull Put spread

The trader can face three types of situations after opening a bull Put spread option strategy. The first one is movement of stock price to the upside as expected, second one is very slow movement of the stock to the upside and the last one is downwards movement.

If the stock moves as per the expectation then it is advisable to book profit as per our target.

If the stock moves too slowly then the trader can roll the short put strike to the next month expiration and create a bull put calendar spread.

If the stock price moves down and the trader is not sure whether stock will go down or move upward. Then he should open an iron condor position by Selling 1 OTM Call and buying 1 OTM Call (Higher Strike). This way he will collect more credit to minimize his loss and the new situation will increase the break-even point also.

Now let's assume that the situation becomes worse and the stock breaks its support level and continue the downtrends. Then the trader should close down the current short put option and short another put option whose strike price is lower strike than the long option strike price. This will create bear put strategy position.

Chapter 6: Option strategies which are applicable under bullish Volatility

Bullish on Volatility option strategies

In next portion of my book, I would like to discuss some strategies which work best under high volatility situation. The term “high volatility” in percentage term depends on the historical volatility of particular stock or index.

There may be many reasons which can increase implied volatility. But keep in mind that the option strategies which I will discuss now, will work best when volatility is in increasing mood and not yet at the pick point.

If you open position with these strategies when volatility is at pick point level and after opening position, volatility decreases, you may lose your investment.

Now the question may arise in your mind that “how shall I understand volatility is going to increase?”

There is a very easy answer to this question. Volatility increases before any special day (e.g. result announcement) of the particular stock or before any special day (e.g. budget) of the market as a whole.

Let's learn the strategies one by one under this category to know more.

Chapter 6A: Reverse Iron Condor

Reverse Iron Condor

Before explaining Reverse Iron Condor strategy, I'd like to share one important point. This strategy looks very simple and easy to use but you may lose your money if you don't use this strategy at right time. This strategy is not going to work favorably unless and until you apply this technique at right time.

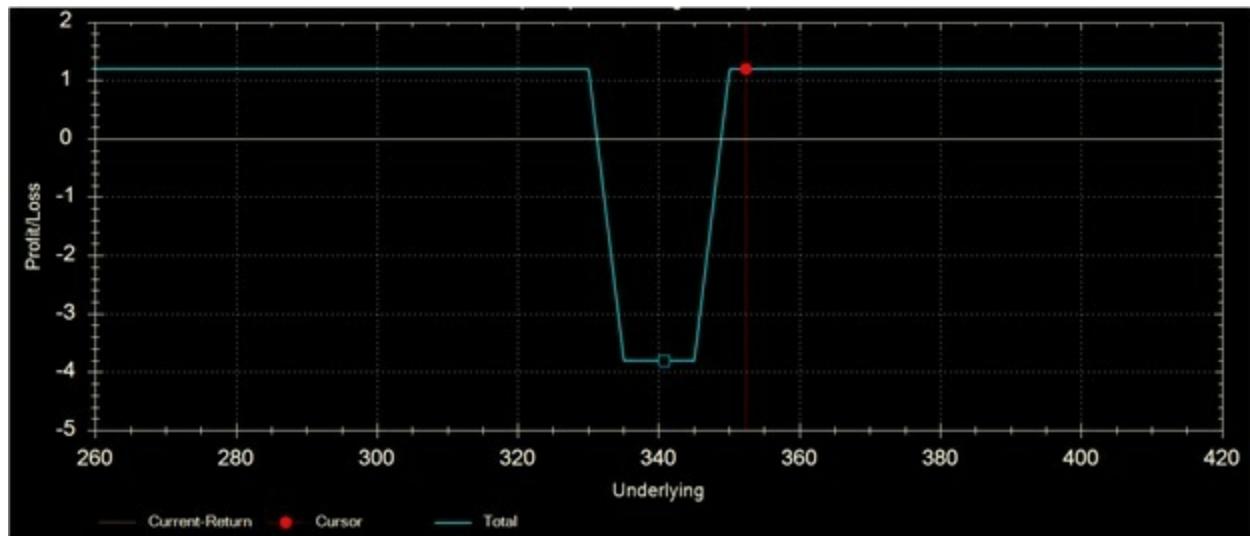


Image: Part-Screenshot taken from OptionsOracle Software

The above figure is the typical payoff chart of this strategy at expiry date. It is clear from the chart that one will earn profit from this strategy if and only if the stock moves beyond break even point on either side. On the other hand, if stock price fails to give significant move then the trader will lose his money.

So, the best time for applying this strategy is **when the trader expects volatility to increase or the trader expects one sided movement for some time due to any reasons, like:-**

1. **Announcement of annual or interim results of company**
2. **Announcement of corporate actions, like bonus issue, right issue, split of shares, etc.**
3. **Announcement of Budget (build this strategy on market index on previous day and close it on Budget day)**
4. **Or any events due to which the selective stock price/market index will show significant movement within 1-4 days.**

Long straddle also gives opportunity to lock profit under same scenario but one may lose more money under long straddle option strategy than this strategy if stock price movement does not go in favour of the trader.

Reverse Iron Condor Construction

Sell 1 OTM Put (Lower Strike)

Buy 1 OTM Put

Buy 1 OTM Call

Sell 1 OTM Call (Higher Strike)

This strategy is made with a net debit instead of a net credit.

Reverse Iron Condor Case1

Suppose, stock ABC is trading at Rs45 during 1st week of January. An options trader executes a reverse iron condor by selling one Jan 35 put at Rs.1 premium per share, buying one Jan 40 put for Rs.2, buying another one Jan 50 call for Rs.2 and selling another one Jan 55 call for Rs.1 premium per share.

The expectation of the trader is that stock price will move sharply on any side due to the upcoming announcement of result next week.

Calculation of maximum Profit

Maximum profit under this strategy is limited. Maximum profit is achievable under two scenarios:

1. Stock price drops below the strike of short put
2. Or rise above or equal to the strike price of the short call

Formula of calculating maximum profit is:

Max Profit = Strike Price of Short Call (or Long Put) - Strike Price of Long Call (or Short Put) - Net Premium Paid

Or

Greatest Difference between two consecutive strikes - Net Premiums paid

Calculating maximum profit of the above example

On the above example, net premium paid by the trader is :-

	Amount (Rs) per share basis
Premium received by the trader by selling the put	1
Premium paid by the trader for buying the put	-2
Premium received by the trader by selling the call	1
Premium paid by the trader for buying the call	-2
	-2 i.e. Rs. 2 net debit/paid by the trader

Here lot size is 100. So, net premium paid by the trader =Rs2*100=Rs.200

Now maximum Profit achievable by the trader = Strike price of short call-strike price of the long call-net premium
 $= (55-50-2)*\text{lot size} = \text{Rs.300}$

Calculation of maximum loss

Maximum Loss under reverse Iron condor strategy is limited and is equal to net payment made by the trader while entering the trade.

Basically maximum loss occurs when the stock price stays in between the long call and the long put. Under this situation, all options expire worthless and the trader loses his initial net debit.

Max Loss = Net Premium Paid

Break-even points of Reverse Iron Condor Strategy

Like other normal option strategies, this strategy has also two break-even points. Once stock price moves beyond these two break-even points, the trader earns profit.

Upper Break-even Point = Strike price of the long call + Net premium paid

Lower Break-even Point = Strike Price of the long Put - Net Premium Paid

On the above example,

Upper Break-even point = $50+2 = 52$

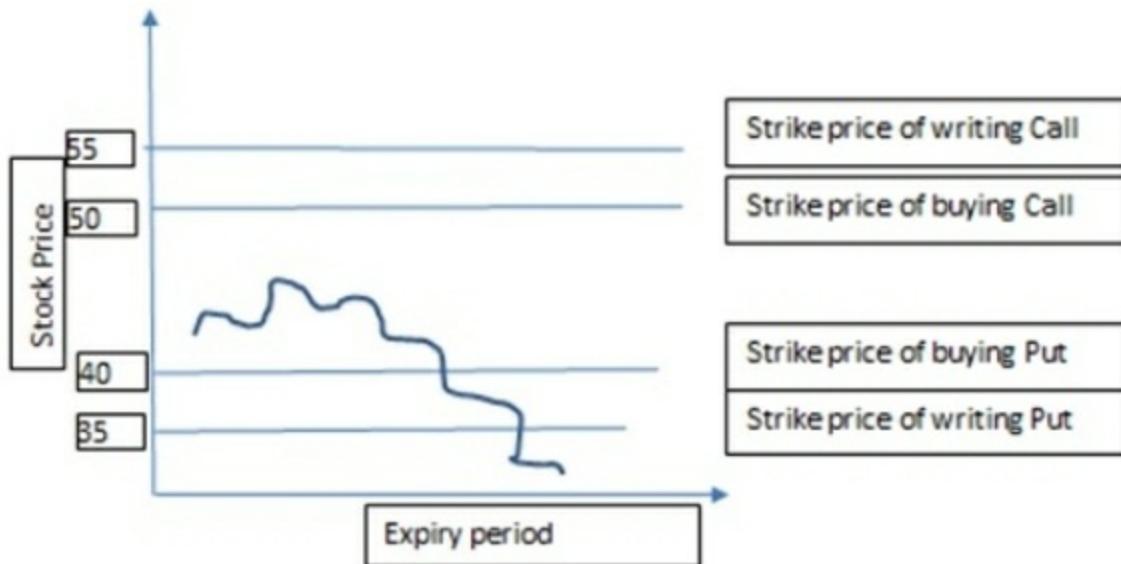
Lower Break-even Point = $40-2 = 38$

So, on the above example, the trader will earn profit if the stock price expires above Rs.52 or below Rs.38.

Explanation of Case 1 example under different situations

Scenario 1: Stock price expires at INR 30

If stock price expires at Rs.30 i.e. below the strike price of short Put



Under such scenario, both the call options expire worthless. Now let's see what happens to the Puts.

Price of strike price Rs.40 put becomes Rs. $(40 - 30) = \text{Rs.}10$; and price of the strike price Rs.35 put becomes Rs. $(35-30)=\text{Rs.}5$.

Hence the trader incurs loss from short Put and loss amount is $\text{Rs.}(5 - 1) = \text{Rs.}4$ on each share.

But the trader gains from purchased Put as the stock price moves to Rs.30 i.e.

Net gain from the whole trade

$$\begin{aligned}&= \text{Premium received from selling the call} - \text{premium paid on buying the call} - \text{loss from sold Put} + \text{profit from purchased Put} \\&= 1 - 2 - 4 + (10 - 2) = \text{Rs.}3 \text{ premium per share} \\&\text{i.e. total profit} = \text{net gain} * \text{lot size} = \text{Rs.}300\end{aligned}$$

Scenario 2: Stock price expires at INR 61



Under such scenario, both the put options expire worthless. Now let's see what happen to the calls.

The price of the call of strike price Rs.50 becomes Rs.11 (61 - 50); and price of the call of strike price 55 becomes Rs.6 (61 - 55).

Therefore the trader incurs loss from the short call and the loss amount is Rs. (6 - 1) = Rs.5 premium on each share.

But the trader gains from purchased call as the stock price move to INR 61

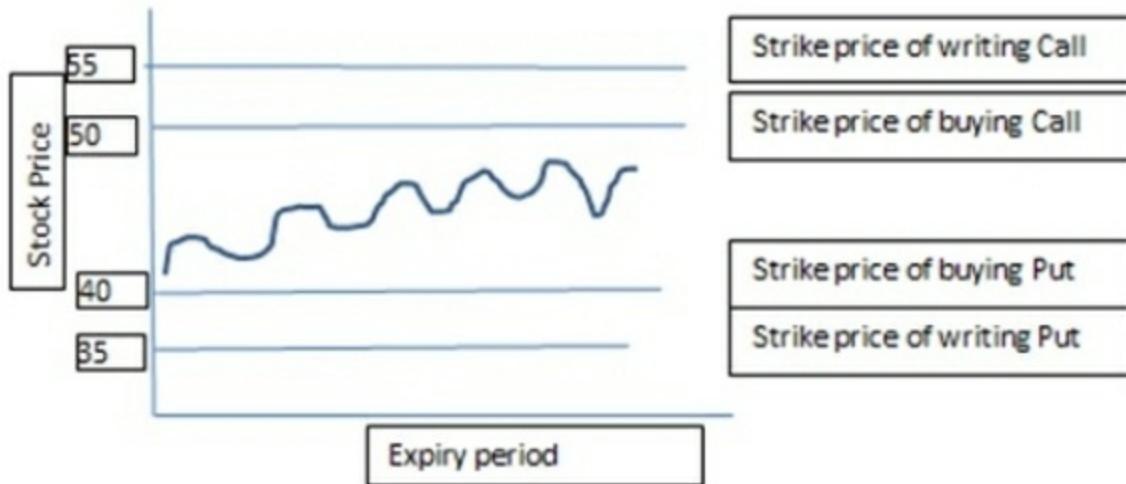
Hence total profit/loss from entire transaction

= (Premium received from selling the put - premium paid on buying the put- loss from sold call + profit from purchased call) * lot size

$$= \text{Rs.}\{1-2-5+ (11-2)\} * 100 = \text{Rs.}300$$

This is the maximum profit which the trader can earn from this trade.

Scenario 3: Stock price expires at INR 45 itself or expires in the range of 40-50 i.e. strike price of buying put and call



Under such scenario, every call and put expires worthless at the expiration date.

So, our net loss is equal to maximum loss i.e. (premium paid for buying both call and put – premium paid for shorting both call and put) i.e. INR 200.

Reverse Iron Condor Adjustment before Expiration

This option strategy can be adjusted under two situations:-

- (i) If underlying stock price moves upward and expects to continue its rising trend.
- (ii) If the underlying stock price drops and expects to continue its down trend.

Under first situation, the put options will expire worthless, so it is better to close down put options and continue the trade with the call options. In this way, this type of situation will create bull call spread position. This new position will help the trader to lock more profit than the older one.

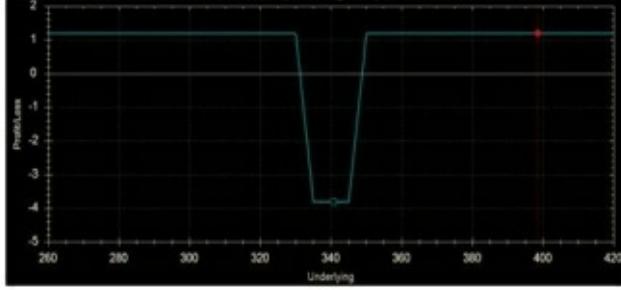
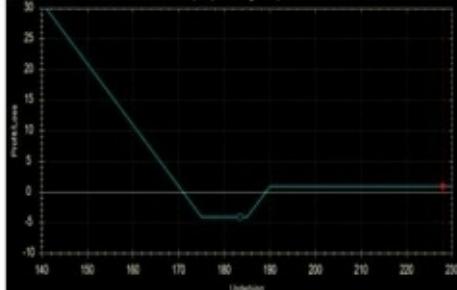
Under second situation, the call options will expire worthless. So it is better to close down all the call options and continue trade with the put options. This will transform the situation into bear put spread position.

Chapter 6B: Short Put Ladder option Strategy

Short Put Ladder Strategy

The short put ladder strategy is also a neutral strategy like the reverse iron condor strategy, which works best under high volatility situation.

However, there is a basic difference between reverse iron condor strategy and short put ladder strategy.

Reverse Iron Condor	Short Put ladder
<p>This strategy gives equal importance to both the side i.e. the trader has the same opportunity to earn equal profit if the underlying stock price breaks the break-even price on either side.</p>  A step function graph showing profit/loss versus underlying price for a reverse iron condor. The x-axis ranges from 260 to 420 with increments of 20. The y-axis ranges from -5 to 2 with increments of 1. The curve starts at (260, 1), remains flat until approximately 325, drops to -4 at 340, rises to 1 at 355, and remains flat until 420. <p>Underlying</p> <p>Profit/Loss</p>	<p>Short Put Ladder gives importance to the downside. The trader has the opportunity to earn unlimited profit on the downside and very limited profit on upside when the stock price crosses the break-even prices.</p>  A piecewise linear graph showing profit/loss versus underlying price for a short put ladder. The x-axis ranges from 140 to 230 with increments of 10. The y-axis ranges from -10 to 30 with increments of 5. The curve starts at (140, 30), decreases linearly to (180, -5), increases linearly to (190, 0), and remains flat until 230. <p>Underlying</p> <p>Profit/Loss</p>

The best time to apply this strategy is when the trader expects that stock price will move either side due to any news or result declaration. The trader also expects that the effect of the news will be more negative than the positive one.

Construction of Short Put Ladder Strategy

Sell 1 in-the-money put

Buy 1 at-the-money put

Buy 1 out-of-the-money put

As you can see that there are two long options and one short option. Hence, closer the expiry period, there will be more negative time decay effect on the strategy. So, it is not advisable to open this strategy when expiry period is very near.

Case study1

The stock B was trading at Rs.421.7 level as on 6th November'2017. The result declaration date was 8th November and the trader was expecting a bad

result of the company. So, he opened a short put ladder strategy with the following options:

He sold a put of strike price 430 (in-the-money) at premium of Rs.13.95 per share

He bought a put of strike price 420 (at-the-money) at premium of Rs.8.35 per share

He bought a put of strike price 410 (out-of-the-money) at premium of Rs.4.65 per share

The lot size was 100.

Here at the time of opening the trade, the net debit/credit was:

$(13.95 - 8.35 - 4.65) = \text{Rs.0.95}$ credit per share

Here in this case study, the trader has received net credit while initiating the trade. But one may get net debit also at the time of opening the trade.

Calculation of Maximum Profit

As, I have discussed that there is limited profit on upper side and unlimited profit potential on downside movement of stock price.

So, Maximum Profit at upside = Net Premium Received at the time of opening the trade

Maximum Profit at downside = Unlimited

Profit is achievable when stock price crosses the break-even points on either side.

The formula of calculating profit on down side after breaking the lower break-even = Lower break-even - Price of underlying

Calculation of Maximum loss

The loss occurs in this strategy when there is insignificant move of underlying price i.e. underlying stock price trades between the strike prices of the put options bought.

At this price, both the short put and the higher strike long put expire as in-the-money put. Obviously, loss is more on shorting put than long put. The formula for calculating maximum loss amount is:

Maximum Loss = Short Put Strike - Higher Long Put Strike - Net Credit

- Maximum loss occurs when underlying stock price is in between the strike prices of two long puts at expiry.

Finding out break-even points

Just like other neutral option strategies, there are 2 break-even points for the short put ladder position. The formulae for calculating break-even points are:

Upper Break-even Point = Strike Price of Short Put - Net Premium Received

Lower Break-even Point = Total Strike Prices of Long Puts - Strike Price of Short Put + Net Premium Received

Calculating maximum profit, maximum loss and break-even points of the above example:-

The break-even points of the above example are:

$$\begin{aligned}\text{Upper break-even point} &= \text{Strike price of short put} - \text{net premium received} \\ &= \text{Rs.}(430 - 0.95) = \text{Rs.}429.05\end{aligned}$$

$$\begin{aligned}\text{Lower Break-even Point} &= \text{Total strike prices of long puts} - \text{strike price of} \\ &\quad \text{short put} + \text{Net Premium received} \\ &= \text{Rs.}(420 + 410) - 430 + \\ &\quad 0.95 = \text{Rs.}400.95\end{aligned}$$

Therefore the trader will be in loss if underlying stock price remains in between Rs.400.95 and Rs. 429.05 at expiry.

As we know, Maximum Loss = Short Put Strike - Higher Long Put Strike - Net Credit

$$\text{Here Max Loss} = \text{Rs.}(430 - 420 - 0.95) = \text{Rs.}9.05 \text{ per share}$$

Maximum profit at upper side = net premium received = Rs.0.95 per share.

Maximum profit at downside is unlimited.

Let see what will be the profit if stock price move to Rs.390 at expiry.

Profit at downside = lower break-even - price of underlying

Here lower break-even point is at Rs.400.95

Profit when underlying price is Rs.390 = Rs.(400.95 – 390) = Rs.10.95 per share

Let me illustrate the above calculation in more easy way:

At this point all 3 put options expire as in-the-money put options.

Therefore the trader will earn profit from the long puts and the loss from the short put.

Let's calculate one by one:

At expiry, premium price of the strike price Rs.430 put i.e. the short put

becomes Rs.(430 - 390) = Rs.40 per share

The premium price of the strike price Rs.420 put and strike price Rs.410 put becomes Rs.(420 - 390) = Rs.30 and Rs.20 per share respectively at expiry.

It means total profit/loss at expiry will be:-

	Price at the time of opening the trade (Rs.)	Price at expiry (Rs.)	Profit/Loss at expiry per share (Rs)
Short Put of Strike Price 430	13.95	40	-40+13.95 = -26.05
Long Put of Strike Price 420	8.35	30	(30-8.35)=21.65
Long Put of Strike price 410	4.65	20	(20-4.65)=15.35
Total Profit/Loss per share from the Trade			10.95
Lot size is 100			
Total profit/loss in the trade			10.95*100=Rs.1095

Hence, the trader will earn Rs.1095 from this trade if underlying stock price expired at Rs.390 level.

Practical Example of short put Ladder on Bank of Baroda

Now I will share one of my trades with this strategy. I built this strategy as on 17th November 2017 on Bank of Baroda. The stock was trading at that time at Rs.183.40. As per my technical analysis studies, I found that this stock might move down and there was strong resistance at Rs.185 level and strong support at Rs.170 level. There was 80% of probability that stock price would move down and the candlestick positions were also giving indication of moving down.

Under this situation, I built short put ladder spread with following options:-

Type	Strike	Expiration	Symbol	Quar	Opn/Cls	Price	Last	Volatility %	Debit	Delta	Gamma	Vega	Theta
Short Put	190.00	30-Nov-2017	BANKBARODA...	1	Open	9.85	9.85	64.85	-9.85	0.66	-0.02	-0.08	0.48
Long Put	185.00	30-Nov-2017	BANKBARODA...	1	Open	6.55	6.55	62.81	6.55	-0.53	0.03	0.09	-0.51
Long Put	175.00	30-Nov-2017	BANKBARODA...	1	Open	2.35	2.35	62.96	2.35	-0.26	0.02	0.07	-0.42

Image: Part Screenshot taken from OptionsOracle Software

As I have discussed, structure of short put ladder is:

Sell 1 in-the-money put, Buy 1 at-the-money put and Buy 1 out-of-the-money put.

Here at-the-money put was Rs.185 strike price put. The out-of-the-money put was strike price Rs.175 put and in-the-money put was strike price Rs.190 put

The net credit at the time of opening the trade was (Rs.9.85 - Rs.6.55 - Rs.2.35) = Rs.0.95 per share

This Rs.0.95 per share credit was the maximum profit at upside if underlying stock price broke the upper level break-even price.

Let's calculate maximum loss and the break-even points of the above example.

As we know,

Maximum Loss = Short Put Strike - Higher Long Put Strike - Net Credit

Here Maximum loss = Rs.(190 - 185 - 0.95) = Rs.4.05 per share

Upper Break-even Point = Strike Price of Short Put - Net Premium Received

Here Upper break-even point = Rs.(190 - 0.95) = Rs.189.05

Lower Break-even Point = Total Strike Prices of Long Puts - Strike Price of Short Put + Net Premium Received

Here Lower Break-even point = Rs.[(185 + 175) - 190 + 0.95] = Rs.170.95

This was break-even point at expiry level. It means that I would make profit if stock price closed or moved below of Rs.170.95 level at expiry. But as I have watched that there was strong resistance at Rs.170 level, so it was unlikely to go below break-even point at expiry. Therefore I made a plan to close the position at least 5 days before the expiry. Because, at that time the lower break-even points will be on more upside than its actual lower break-even point at expiry.

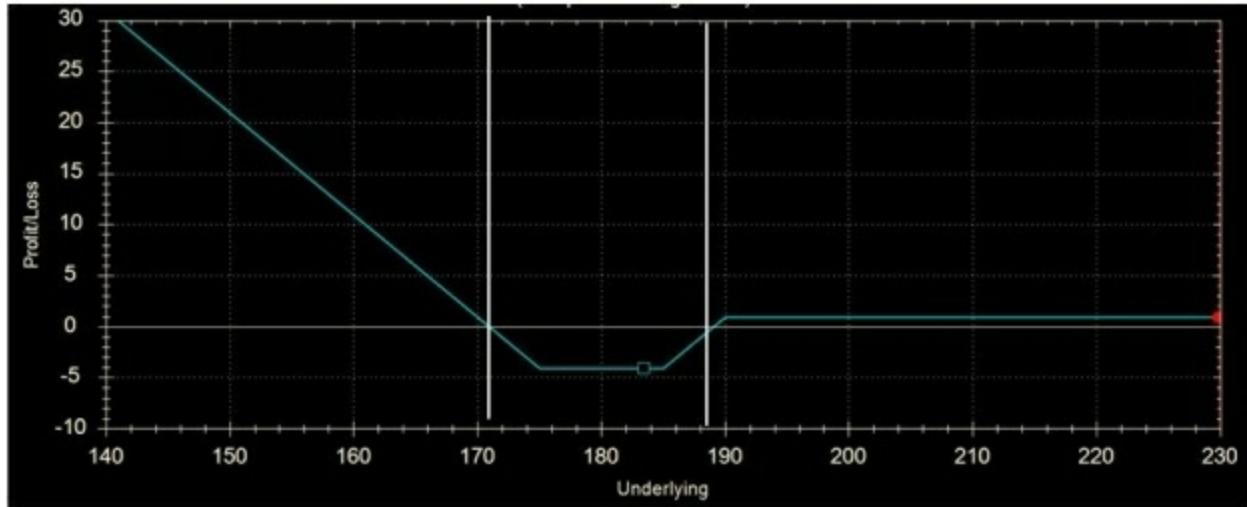


Image: Part Screenshot taken from OptionsOracle Software

On November 24, the Bank of Baroda stock price was Rs.178.15 and the option prices were as follows:

Type	Strike	Expiration	Symbol	Qua	Open/Cls	Price	Last	Volatility %	Debit	Delta	Gamma	Vega	Theta
Short Put	190.00	30-Nov-2017	BANKBARODA...	1	Open	11.35	11.35	52.51	-11.35	N/A	N/A	N/A	N/A
Long Put	185.00	30-Nov-2017	BANKBARODA...	1	Open	7.65	7.65	34.64	7.65	-0.81	0.04	0.06	-0.19
Long Put	175.00	30-Nov-2017	BANKBARODA...	1	Open	2.30	2.30	42.21	2.30	-0.36	0.04	0.08	-0.31

Image: Part Screenshot taken from OptionsOracle Software

This was the last Friday before the expiry week i.e. 5 days before expiry and price of the underlying was also in downside, so I closed the position.

Calculation of net profit/loss at time of closing the position:-

	Price at the time of opening the trade (Rs.)	Price at expiry (Rs.)	Profit/Loss at expiry per share (Rs.)
Short Put of Strike Price 190	9.85	11.35	-1.5
Long Put of Strike Price 185	6.55	7.65	1.1
Long Put of Strike price 175	2.35	2.30	-0.05
Total Profit/Loss per share from the Trade			-0.45
Lot size is 4000			
Total profit/loss in the trade			-0.45*4000=(Rs.1800)

Now, one may has question in mind that the stock moved towards my predicted side and still I made a loss. What is reason behind this?

There can be two reasons; one is for volatility and other is for time decay. Normally option price declines if implied volatility declines over the

time. Here the average implied volatility at the time of opening the trade was more than 60% but it declined to nearly 40% at the time of closing the trade. This was the first reason of not getting enough upside movement of the option price.

The expiry period was very near and there were two long options in this trade.

Always try to open such type of trade when there is more than 15 working days available before expiry in hand i.e. open the strategy with next month options. But this may not be always possible in Indian market due to low liquidity in the far month options. So, it is advisable to book profit within 3-4 days in this type strategy which have mostly long options. Here I waited for a long time and expiry period was very near. So time decay was the second reason of my loss.

Chapter 6C: Long Straddle and Long Strangle option Strategies

Long Straddle and long strangle option strategies

Long Straddle and long strangle option strategies are most popular and easy option strategy for the beginners. Both are very easy to use but the main problem is time decay. Because both the strategies are debit spread and there are only two long options and no short option.

These strategies are best to use when there are longer expiry days available in hand. As there is liquidity problem in the far month options in the Indian market so better to use these strategies within first 10 days of the option expiry month. I regularly use this strategy on Nifty on far month and I found no problem but there may be liquidity problem in stocks.

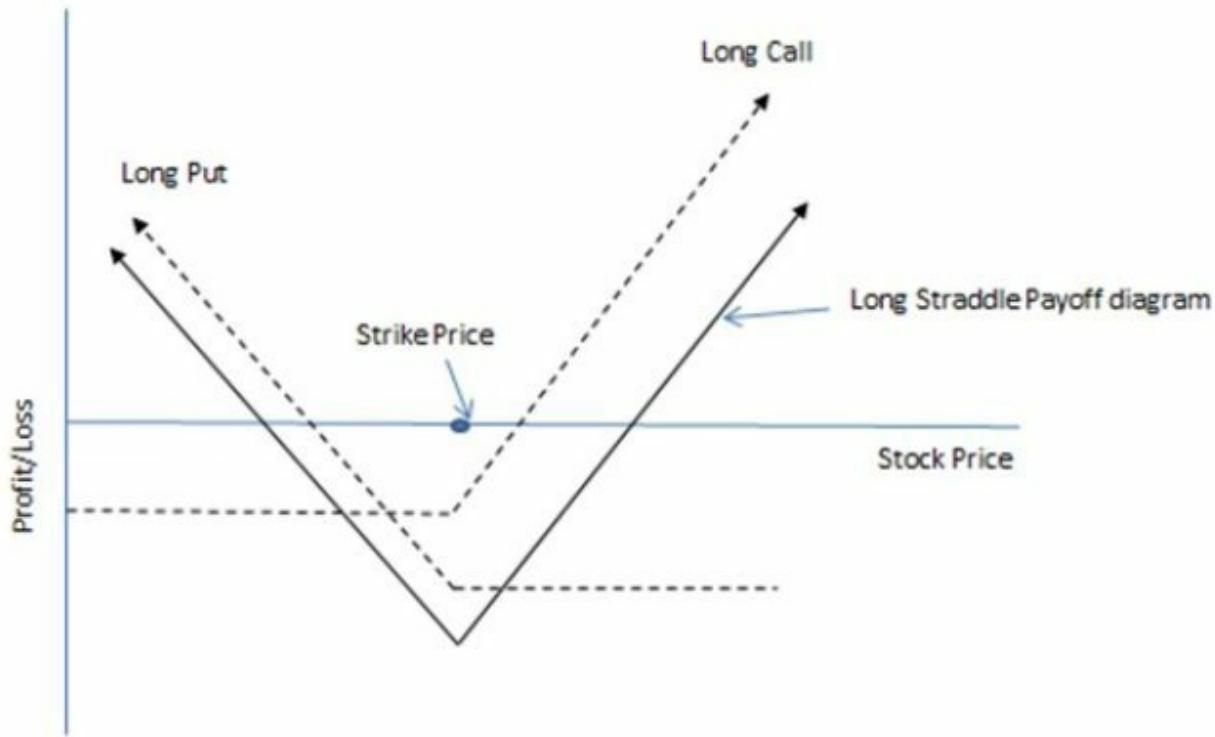
I generally use these strategies prior to any important days, like 2/3 days before the announcement of result of any stock or 2 days before any important economic or political announcement. Another very important thing is that I close the position as soon as I get nominal amount of profit or occurrence of the event which I was waiting for; whichever is earlier. Of course, this total time frame should never exceed more than 3-4 days because longer waiting may wash-off the entire profit through time decay value.

My two favourite stocks for these strategies are Yes Bank and Infosys (except Nifty which is all time favourite and can be used any day) before their result announcement. Suppose, if the result announcement is on Thursday then make the strategy on the underlying stock as on Tuesday after 10:30 am. If you get at least 3-5% return on your investment within next day (I am sure, you will get it) then close the position, don't wait long.

Now let me explain both the strategies in details. There is difference only in the formation of both the strategies but all the other things remain almost same. Firstly, I shall like to discuss the formation separately and then I shall discuss the other things together.

Formation of Long Straddle

The trader holds a long call and a long put of same strike price and same expiry period of the same underlying asset under this strategy.



It is clear from above figure that the long straddle position is the net summation of having long call and long put together of same strike price and same expiry period.

Formation of Long Strangle

Long strangle also forms with a long call and a long put of same expiry but the difference is in strike price. This strategy involves buying an out-of-the-money call option and out-of-the-money put option. This strategy is profitable only when underlying asset price moves significantly even more movement is required than the movement requires in straddle as both the options are out-of-the-money options. But this strategy is less expensive than the straddle option strategy.

I generally prefer to use the long straddle option strategy than the strangle one.

Example

Below is the option chain of Nifty of April'2018 when Nifty was trading at 10200 levels.

Type	Strike	Expiration	Symbol	Last	Change	TimeVal.	Bid	Ask	Volume	Open Int.	ImpV	ITM Prob	Delta	Gamma	Vega	Theta
Call	9,800.00	26-Apr-2018	NIFTYOPTDX26APR201898	479.00	+6.00	73.40	469.00	472.00	1,297	219,450	18.99	67.61	0.778	0.001	8.805	-2.780
Call	9,850.00	26-Apr-2018	NIFTYOPTDX26APR201898	0.00	+0.00	105.25	410.60	453.85	0	0	18.89	65.49	0.750	0.001	9.159	-2.953
Call	9,900.00	26-Apr-2018	NIFTYOPTDX26APR201899	367.95	+21.10	91.75	387.95	396.35	2,690	387,800	16.15	63.33	0.727	0.001	9.627	-2.972
Call	9,950.00	26-Apr-2018	NIFTYOPTDX26APR201899	335.35	+26.40	110.55	349.90	359.15	22	2,850	17.70	61.13	0.697	0.001	10.104	-3.043
Call	10,000.00	26-Apr-2018	NIFTYOPTDX26APR201810	310.85	+29.45	113.60	318.60	312.20	8,265	844,425	17.17	58.91	0.666	0.001	10.535	-3.078
Call	10,050.00	26-Apr-2018	NIFTYOPTDX26APR201810	284.00	+42.00	130.20	274.25	278.80	156	9,975	16.86	56.68	0.630	0.001	10.931	-3.135
Call	10,100.00	26-Apr-2018	NIFTYOPTDX26APR201810	241.05	+25.65	142.75	240.25	241.35	14,793	851,600	16.31	54.43	0.592	0.001	11.238	-3.118
Call	10,150.00	26-Apr-2018	NIFTYOPTDX26APR201810	209.10	+24.75	160.60	206.65	209.20	796	22,350	15.86	52.18	0.551	0.001	11.450	-3.089
Call	10,200.00	26-Apr-2018	NIFTYOPTDX26APR201810	177.55	+20.00	177.95	177.50	177.95	28,497	1,101,625	15.45	49.94	0.507	0.001	11.543	-3.035
Call	10,250.00	26-Apr-2018	NIFTYOPTDX26APR201810	150.00	+17.00	149.35	148.00	149.35	1,119	34,275	14.96	47.70	0.461	0.001	11.491	-2.925
Call	10,300.00	26-Apr-2018	NIFTYOPTDX26APR201810	123.65	+14.40	123.50	123.00	123.50	36,828	1,328,175	14.58	45.49	0.414	0.001	11.273	-2.796
Call	10,350.00	26-Apr-2018	NIFTYOPTDX26APR201810	104.70	+14.90	101.95	99.70	101.95	502	29,025	14.24	43.30	0.365	0.001	10.880	-2.636
Call	10,400.00	26-Apr-2018	NIFTYOPTDX26APR201810	80.68	+9.75	86.75	80.35	86.75	27,822	1,280,325	13.87	41.13	0.317	0.001	10.382	-2.431
Call	10,450.00	26-Apr-2018	NIFTYOPTDX26APR201810	67.95	+11.55	84.60	82.40	84.60	349	22,425	13.56	39.81	0.270	0.001	9.564	-2.287
Put	9,600.00	26-Apr-2018	NIFTYOPTDX26APR201898	48.00	+0.00	45.15	48.90	48.15	17,757	1,547,100	16.98	32.39	-0.185	0.001	7.725	-2.114
Put	9,650.00	26-Apr-2018	NIFTYOPTDX26APR201898	56.50	+11.00	56.75	55.40	56.75	63	16,896	15.77	34.51	-0.212	0.001	6.395	-2.249
Put	9,900.00	26-Apr-2018	NIFTYOPTDX26APR201899	85.05	+31.05	65.50	65.15	65.50	13,504	924,450	15.45	36.67	-0.242	0.001	9.038	-2.376
Put	9,950.00	26-Apr-2018	NIFTYOPTDX26APR201899	74.55	+16.00	76.10	74.60	76.10	218	16,575	15.07	38.87	-0.275	0.001	9.651	-2.474
Put	10,000.00	26-Apr-2018	NIFTYOPTDX26APR201810	86.70	+17.00	86.90	86.50	86.90	33,648	2,526,825	14.66	41.09	-0.311	0.001	10.222	-2.558
Put	10,050.00	26-Apr-2018	NIFTYOPTDX26APR201810	96.05	+33.05	109.70	98.85	109.70	285	16,425	14.25	43.32	-0.351	0.001	10.728	-2.601
Put	10,100.00	26-Apr-2018	NIFTYOPTDX26APR201810	114.20	+33.00	114.65	114.10	114.65	25,928	960,525	13.83	45.57	-0.395	0.001	11.140	-2.620
Put	10,150.00	26-Apr-2018	NIFTYOPTDX26APR201810	130.00	+36.00	131.00	128.75	131.00	1,073	17,100	13.28	47.82	-0.442	0.001	11.423	-2.581
Put	10,200.00	26-Apr-2018	NIFTYOPTDX26APR201810	149.05	+25.00	147.80	148.30	149.20	21,975	1,174,800	12.82	50.06	-0.494	0.001	11.544	-2.519
Put	10,250.00	26-Apr-2018	NIFTYOPTDX26APR201810	167.40	+77.00	129.45	166.95	171.85	212	6,525	12.29	52.39	-0.550	0.001	11.453	-2.394
Put	10,300.00	26-Apr-2018	NIFTYOPTDX26APR201810	192.50	+34.40	91.05	191.10	192.45	5,776	678,075	11.64	54.51	-0.611	0.001	11.092	-2.197
Put	10,350.00	26-Apr-2018	NIFTYOPTDX26APR201810	0.00	+0.00	-151.40	175.85	0.00	0	0	NaN	56.70	NaN	NaN	NaN	NaN
Put	10,400.00	26-Apr-2018	NIFTYOPTDX26APR201810	246.95	+46.00	46.60	246.25	248.00	4,195	643,125	10.35	58.87	-0.743	0.001	9.338	-1.644
Put	10,450.00	26-Apr-2018	NIFTYOPTDX26APR201810	0.00	+0.00	-251.40	201.80	0.00	0	0	NaN	60.00	NaN	NaN	NaN	NaN

I was expecting significant movement at any side at that time. Let us see what would be my profit/loss under both the strategy

Subject	Long Straddle	Long Strangle
Formation	Long call of strike price 10200 @Rs.177.55 Long Put of strike price 10200 @ Rs.149	Long Call of strike price 10300 @Rs.123.65 Long put of strike price 10100 @Rs.192.50
Maximum Loss	Total premium paid= Rs.177.55+149 =Rs.326.55 per share	Total premium paid= Rs.123.65+192.50 =Rs.316.15 per share
Lot size	75	75
Maximum Profit	Maximum gain is unlimited The profit at expiry is the difference between the underlying price and strike price after deducting the premium paid.	Maximum gain is unlimited. The gross profit at expiry is the difference between the stock price and strike price of call option (if stock price is higher) or the strike price of the put option (if the stock price is lower). Net profit= Gross profit-premium paid at the time of opening the trade
Break-even Points at expiration period	Upside breakeven = strike + premiums paid Downside breakeven = strike - premiums paid	Upside breakeven = call strike + premiums paid Downside breakeven = put strike - premiums paid
Break-even points in this example	Upside Break-even= 10200+326.55=10526.55 Lower Break-even point= 10200-326.55 = 9873.45	Upside Break-even= 10300+316.15=10616.15 Lower Break-even point= 10100-316.15 = 9783.85
The break-even points are more apart in case of long strangle than the long straddle.		
Stock Price moves downwards at 9800 level at expiry	Strike Price-Underlying price-Net Premium paid =10200-9800-326.55 =Rs.73.45 per share	Put Strike price-underlying price-premium paid = 10100-9800-316.15 =-16.15 per share
Stock Price moves upward at 10600 level at expiry	Underlying price-strike price-premium paid=10600-10200-326.55 = Rs.73.45 per share	Underlying price-call strike price-premium paid= 10600-10300-316.15 = -16.15 per share
But in practical, this profit is not possible to realize because of time decay. As both the options are long options so time decay has very high effect on these strategies. So, always book profit/loss within 3-4 days of opening the trade and never open these strategies with options with less than 15 days expiry period.		

I have already discussed the importance of **time-decay** in these strategies. There is another important parameter which heavily affects these strategies, which is **Implied Volatility**.

We know that if volatility increases the option price will also increase. As these strategies comprises both the long options so if volatility increases then option prices will also increase and simultaneously the amount of profit will also increase and vice versa.

Practical Example: Long Straddle on Infosys in January'2018

I open a long straddle on Infosys as on 15th January 2018 as I was expecting a significant movement on this stock in any side within next 3-4 days. The stock was trading at Rs.1074.90 level at that time.

Type	Strike	Expiration	Symbol	Quantity	Open/Cls	Price	Last	Volatility %	Commission	Margin	Debit
Long Call	1,080.00	25-Jan-2018	.INFYOPTSTK2...	1	Open	24.60	24.60	35.80	0.00	24.60	24.60
Long Put	1,080.00	25-Jan-2018	.INFYOPTSTK2...	1	Open	30.70	30.70	35.80	0.00	30.70	30.70

Image: Part Screenshot taken from OptionsOracle Software

The lot size was of 600 shares.

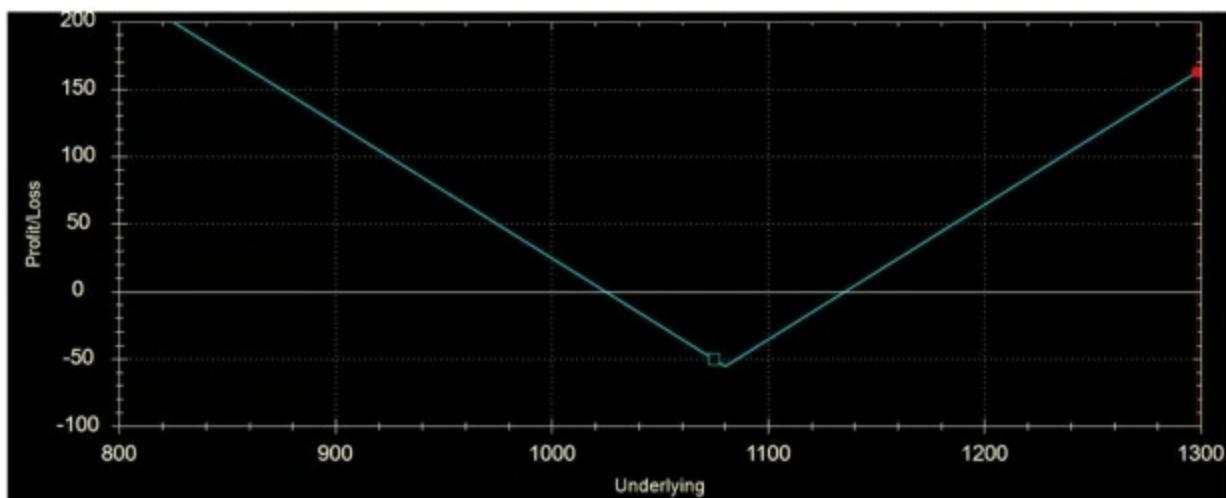


Image: Part Screenshot taken from OptionsOracle Software

Here my probable maximum loss amount was equal to total premium paid at the time of opening the trade i.e. Rs. $(24.60 + 30.70) = \text{Rs.}55.30$ per share.

My Total Investment was = $\text{Rs.}55.30 * 600 = \text{Rs.}33,180$

Upper break-even and lower break-even points were

$(1080 + 55.30) = \text{Rs.}1135.30$ and $(1080 - 55.30) = \text{Rs.}1024.70$

consecutively.

I close my position on 18th January morning when the stock price was Rs.1152.

Type	Strike	Expiration	Symbol	Quantity	Opn/Cls	Price	Last	Volatility %	Commission	Margin	Debit
Long Call	1,080.00	25-Jan-2018	.INFYOPTSTK2...	1	Open	67.55	67.55	30.15	0.00	67.55	67.55
Long Put	1,080.00	25-Jan-2018	.INFYOPTSTK2...	1	Open	2.10	2.10	30.15	0.00	2.10	2.10

Image: Part Screenshot taken from OptionsOracle Software

My net profit was equal to Total selling price-Total buying price

= Rs.[(67.55 + 2.10) - (24.60 + 30.70)] = Rs.14.35 per share

Hence, Total Profit = Rs.14.35*600 = Rs.8610

My total return in this strategy was Rs.8610/Rs.33180 = 24.95% in 3 days' time frame.

Adjustment of Long Straddle and Long Strangle spread

I generally do not wait to adjust these type strategies because time decay plays a vital role in such type of situations (all long positions).

Under any adverse situations, like - no significant movement of the stock price although the special event has crossed or the implied volatility has decreased and the position are open for more than 5 days, then the trader should close the entire position.

Chapter 7: Easy To Follow Guide Line For Indian Option Market

Easy To Follow Guide Line for Indian Option Market

General Guidance

I have discussed on option basics, strategies and my experiences on that till now. I would like to share some valuable tips now for trading in Indian option market. These tips are solely based on my 11 years' experiences of trading. If you follow these tips by heart, I am sure that you will find positive changes in your trading.

1. **Make exit Plan:** Normally traders take the entry decision very carefully. They watch the chart, find pivot points, find support-resistance levels, watch indicators carefully and then open the position. They normally do not plan for the exit before opening trade.

But actual method of trading is to make entry and exit both the plans ready before opening the trade.

This exit plan may be reaching of specific stock price level or may be certain time frame or may be attaining particular amount of profit/loss but make the plan beforehand. You will fall into the trap of your emotions if you not plan your work before starting the work.

This planning will enable you to foresee the possible profit or loss and this is very much required in any type of business or trading.

Yes, do consider trading as your business and give same importance which you should give to your business, if you had any.

2. **Accept the losses:** It is common to have losses in trading. Accept it. You're not GOD. It is okay to make mistakes but learn from it. Analyze the trades on which you make losses even the trades on which you've earn profits. Find out reasons of making loss and profit. Then make next plans by correcting the wrong ones.

3. **Never try to doubling Profits to cover past losses:** It is a common habit of the traders that they try to make double profits to recover the losses made in past. This habit is dangerous. This tendency creates more stress on their minds which resulted as mistakes and more losses.

So, if you have made losses, accept it. Concentrate on the next trade with a fresh mind. Don't pressurize yourself with a target which is next to impossible.

4. **Never trade on non-liquid stock options:** Trading on non-liquid stocks is dangerous but trading on non-liquid stock options is even more dangerous. You can wait long while dealing with only stocks but there is limited time frame while dealing with stock options. So, carefully watch bid-ask spreads of option chain of the stock before start trading.

There are 209 stocks in NSE which offers option trading facility. I have carefully watched each and every one and listed out only 24 stocks which are very liquid in nature and safe to trade.

You are free to trade options outside the list also, but you may face volume and spread-difference problem at that time.

* Non-Liquid stocks are those stocks which are not traded often, which do not offer much movement and have very low volume.

Table: Stocks from NSE which are highly liquid and having low bid-ask spread

SL No	Name of the Company	Symbol
1	ASHOK LEYLAND LTD	ASHOKLEY
2	AXIS BANK LIMITED	AXISBANK
3	BANK OF BARODA	BANKBARODA
4	BANK OF INDIA	BANKINDIA
5	BHARTI AIRTEL LIMITED	BHARTIARTL
6	CANARA BANK	CANBK
7	DLF LIMITED	DLF
8	HINDALCO INDUSTRIES LTD	HINDALCO
9	ICICI BANK LTD.	ICICIBANK
10	IDEA CELLULAR LIMITED	IDEA
11	INDIAN OIL CORP LTD	IOC
12	INFOSYS LIMITED	INFY
13	ITC LTD	ITC
14	PUNJAB NATIONAL BANK	PNB
15	RELIANCE NAVAL AND ENGINEERING LIMITED	RNALVAL
16	RELIANCE INDUSTRIES LTD	RELIANCE
17	STATE BANK OF INDIA	SBIN
18	STEEL AUTHORITY OF INDIA	SAIL
19	SUN PHARMACEUTICALS IND.	SUNPHARMA
20	TATA GLOBAL BEVERAGES LTD	TATAGLOBAL
21	TATA MOTORS LIMITED	TATAMOTORS
22	TV18 BROADCAST LIMITED	TV18BRDCST
23	VEDANTA LIMITED	VEDL
24	YES BANK LIMITED	YESBANK

5. **Don't wait for too long:** Don't wait too long before closing any option strategy. Of-course waiting time will depend on the type of the strategy. Waiting time for long straddle/strangle will be much lesser than the iron condor strategy.

Always take minimum amount to average amount of profit and exit the trade. It is advisable to book profit when it is equal to 25% to 40% of the maximum profit as calculated.

Special advice for Indian Market

Below is the list of most liquid stocks in option trading of National stock exchanges with their daily and annualized volatility:-

Symbol	Company Name 12th Feb'18	Lot size	Daily Volatility	Annualized volatility	Company PE	Sectoral PE
ASHOKLEY	ASHOK LEYLAND LTD	7,000	2.21	42.29	20.7	30.59
AXISBANK	AXIS BANK LIMITED	1,200	1.72	32.77	39.26	29.2
BANKBARODA	BANK OF BARODA	4,000	3.06	58.38	36.54	29.2
BANKINDIA	BANK OF INDIA	6,000	2.33	44.57	0	29.2
BHARTIARTL	BHARTI AIRTEL LIMITED	1,700	2.24	42.75	112.06	30.59
CANBK	CANARA BANK	1,600	2.68	51.2	17.74	29.2
DLF	DLF LIMITED	5,000	2.73	52.09	75.42	65.17
HINDALCO	HINDALCO INDUSTRIES LTD	3,500	1.92	36.67	31.29	30.75
ICICIBANK	ICICI BANK LTD.	2,750	1.89	36.1	26.65	30.56
IDEA	IDEA CELLULAR LIMITED	7,000	1.98	37.82	0	30.75
IOC	INDIAN OIL CORP LTD	1,500	1.14	21.86	9.01	30.75
INFY	INFOSYS LIMITED	600	1.19	22.82	15.42	19.02
ITC	ITC LTD	2,400	1.05	20.02	30.71	30.75
PNB	PUNJAB NATIONAL BANK	4,000	4.51	86.09	19.71	30.56
RNAVAL	RELIANCE NAVAL AND ENGINEERING LIMITED	9,000	4.37	83.55	0	65.46
RELIANCE	RELIANCE INDUSTRIES LTD	1,000	1.49	28.46	17.9	30.75
SBIN	STATE BANK OF INDIA	3,000	2.26	43.15	0	30.56
SAIL	STEEL AUTHORITY OF INDIA	12,000	3.27	62.56	0	16.94
SUNPHARMA	SUN PHARMACEUTICALS IND.	1,100	2.51	47.86	367.14	46.92
TATAGLOBAL	TATA GLOBAL BEVERAGES LTD	4,500	1.83	34.9	39.56	41.42
TATAMOTORS	TATA MOTORS LIMITED	1,500	1.84	35.12	0	39.16
VEDL	VEDANTA LIMITED	1,750	1.93	36.78	14.07	30.75
YESBANK	YES BANK LIMITED	1,750	1.80	31.53	18.81	30.56

The above data were collected from nseindia.com in the first half of the year 2018 and these data may change over the long time period. However, I would like to share some trading tips for trading or selecting different option strategies. These tips or screeners are based on my experiences.

Trading tips for long strangle/Long straddle option strategy:

I will advice you to open long straddle rather than opening long strangle. Although long strangle is cheaper in cost than the long straddle but you can earn profit within smaller time frame in long straddle.

a) Open Long straddle on above stocks (listed in table) 1or 2 day before any special day of those stocks as advised in the long-straddle chapter andwhich fulfills all the below criterion:-

- The stocks which have daily volatility more than 1.5%
- Underlying Price is more than Rs.50
- The bid-ask spread in option price is in between Rs.0.05 to Rs.0.5.

Note: Infosys has daily volatility less than 1.5% but it starts moving significantly 2 days before its result announcement. Any trader can make good profit from Infosys in this movement. Normally most of the stocks show significant moves before the announcement of their result, of-course there are some exceptions also.

Search the internet for result calendar of Indian stocks and make the list ready with you for future trades.

b) Open long straddle on the above stocks on any day (except in a very stagnant day) which fulfills all the below criterion:-

- The stocks which have daily volatility more than 2.5%
- Underlying Price is more than Rs.75
- The bid-ask spread is not more than Rs.0.15
- Crosses a significant support/resistance level on closing basis on the previous day

- Volume has shown spike on previous day
 - Implied volatility of the options is less than the annualized volatility or very little above that.
 - Open trade with the options which have more than 12 working days in hand before expiry.
- c) You can open long straddle on Nifty any day. I am sure that 80% of the time, you will get good profit. But keep in mind the following points:-
- Implied volatility of the options to be traded is in between 13-16%
 - Open trade always with at-the-money options (exceptional can be done on special day of market).
 - Close the trade within 1-3 days
 - Open trade with options which have more than 12 working days in hand before expiry.

You can try this strategy with bank-nifty also but the parameters will change in case of bank-nifty.

Note: A trade advice for super profit: Open a long straddle in the morning 1 day before budget and close that trade in between 11:30am-2:00pm of the budget day or after getting the target amount of profit.

Trading tips for Short-put ladder option strategy:

This short put ladder strategy is applicable only when the trader is expecting significant volatility in near term. My advice is to open short put ladder on any of the stocks if it fulfills all the below criterion:-

- The analysis is predicting more downside movement after breaking of strong support level at downside.
- The stocks which have daily volatility more than 1.25%
- Underlying stock price is more than Rs.50
- The bid-ask spread in option price is in between Rs.0.05 to Rs.0.5.
- Put price is at higher level or equal to the same strike call price

at same level of underlying stock price (although it is always not necessary but it is a better situation) but put price should not be less than the same strike call price at same level .

- Open trade with options which have more than 10 working days in hand before expiry.
- Close the trade within 1-4 days after opening the trade.

Trading tips for Iron Condor option Strategy: This strategy works best on the stocks which have low volatility. My advice is to open Iron Condor option strategy on any of the stocks if it fulfills all the below criterion:

- The stocks which have average daily volatility less than 1.25%
- The underlying stock price has not crossed any significant level on any side within past 4-5 days.
- The technical analysis is not showing significant movement on either side.
- There is no important announcement by the company management in next 10 days
- Close the trade if you have achieved more than 30% of the maximum profit calculated or before that depending on the situation.

Trading tips for Bear Call and Bear Put option strategy: This strategy is suitable when the trader is expecting that market or stock price may go down (moderately bearish) in near term. My advice is to open bear put option strategy when the stocks will fulfill the below criterion:

- Implied Volatility of option is relatively low than historical annualized volatility
- The stocks which have daily volatility more than 1%
- Don't wait for earning maximum profit
- Analysis is showing slight negative movement in near future

You can open bear call option strategy when implied volatility is higher than the historical annualized volatility keeping other criterion same as bear put option strategy.

My advice is always to open bear call option strategy. But before opening compare both the strategies and open that strategy which has lower possible maximum loss amount.

Trading tips for Bull Call and Bull Put option strategy: This strategy is suitable when the trader is expecting that market or stock price may go upwards (moderately bullish) in near term. My advice is to open bull call option strategy when the stocks fulfill the below criterion:

- Implied Volatility of option is relatively low than historical annualized volatility
- The stocks which have daily volatility more than 1%
- Don't wait for earning maximum profit
- Analysis is showing slight positive movement in near future

You can open bull put option strategy when the implied volatility is higher than the historical annualized volatility keeping other criterion same as bull call option strategy.

My advice always is to open bull put option strategy. But before opening compare both the strategies and open that strategy which has lower possible maximum loss amount.

Trading Tips for Reverse Iron Condor Strategy

The proper timing of reverse iron condor strategy and long straddle may look same but there are also some differences. In the following cases you can use this strategy rather than long straddle keeping other parameters same.

- This strategy can be used on weekly stock or weekly index option.
- If the position is required to be open for a longer time frame then this strategy is better than long straddle because there will be more risk of losing money in long straddle strategy as that consists only long options.
- Use this strategy if risk/loss taking capacity is low

Note: The only problem is that the profit amount is very low compared to the margin requirement in Indian market than the long straddle option

strategy.

Trading Tips for Calendar Spread Option Strategy

The Indian option traders face problems while dealing with this option strategy due to low liquidity of next expiry period option. My advice is to use this option on Bank nifty on its weekly options. Calendar spread on Bank nifty weekly option gives good return.

Declaration

Trading methodologies and other points that are discussed in this book are solely based on my knowledge and experience. If anybody incurs loss in trading while following the book, I will not be responsible for that. Because trading depends on many parameters such as micro and macroeconomic factors, emotional balance, risk taking capacity, security type and many more. The methodologies in this book for a particular option strategy may not be considered as a template of success for every possible case in any market condition.

The financial market and its trading behavior change frequently over time and depending on the security type. So when one takes a position one should follow his/her own analysis and will not solely depend on my trading tips or screeners.

I will not accept liability for any loss, damage or expense incurred or

suffered by anybody if anyone solely depends on any information provided by this book when making trading decisions.