CREATING A SYSTEMATIC TRADING PLAN IN NIFTY WITH BULL CALL SPREAD OF FIRST IN THE MONEY AND AT THE MONEY STRIKE PRICE

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Abstract:

Background

Bull Call Spread is a bullish strategy adopted in a range bound Stock movement with a slightly positive bias. It is created by buying In the Money Calls and selling equal number of Out of the Money Calls with the same expiry time. Both gains and losses are limited. An effort has been made through this Research paper to recommend a Systematic Trading Plan for Small Retail Traders or Beginners in the Stock Market, which is profitable, easy to understand, and doesn't require thorough knowledge of the Stock Market.

Results

Research was carried out in Nifty from January 2008 to June 2011 to evaluate performance of Bull Call spread at different entry points during an F&O Series. If a trader enters this strategy on first working of a Week before expiry in a prescribed manner (which is simple to understand), he can get net annualized returns of 27%.

Key words: Systematic Trading Plan, Bull Call spread, Various Entry Points, Nifty, Options

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Introduction:

Bull Call spread is a Bullish Options strategy which involves buying of Call Options and selling equal amount of Call options at a higher strike price, and with the same Expiry. This strategy is adopted in mildly bullish conditions. If there are highly bullish conditions, a trader would obviously buy un-hedged Call options for maximum returns. However, in mildly bullish conditions, when there is a moderate chance of the stock going up, traders look to hedge their positions. By buying a Call and hedging it with a higher strike price call, net premium outflow is reduced, and time decay concerns are also allayed to some extent. Both downside and upside risks are limited and a mild upward movement gives decent profits from this strategy.

Premium outflow from this strategy is the premium paid for buying the Call options, and premium inflow is the premium received by selling the higher strike price Call option.

Net Premium Outflow = (Premium Outflow – Premium Inflow) x Lot Size

Net premium outflow is the maximum loss from this strategy, irrespective of any possible quantum of fall in the stock price.

Maximum Profit on Expiry = (Difference in chosen higher and lower strike prices +

Premium Inflow- Premium Outflow) x Lot Size.

As clear from the above two equations, Maximum loss is reduced and also profit is maximized when difference between the two chosen strike prices is lesser. On expiry in the Zone between the two strike prices chosen, there may be profit or loss. If expiry happens at or above the higher Strike price, maximum profit will be realised. If expiry happens at or below the lower strike price, maximum loss will happen. If For instance, if Nifty is the Stock, and buying and selling strike prices are 5400 and 5500 respectively, then trader will make maximum losses on expiry at or below 5400, maximum profit on expiry at or above 5500, and moderate profits and losses on expiry between 5400 and 5500.

Breakeven point on Expiry = Lower strike price + Premium Outflow – Premium Inflow.

Again, in the Zone between two strike prices, Breakeven point is lower if the net premium outflow is lesser. In the beginning of an F&O series, difference in Premium between mildly in the money, at the money, and mildly out of the money strike prices is comparatively lesser. As the series progresses, this difference increases. Towards the expiry, this difference is the maximum. However, towards the end of the series, there is an advantage of more clarity on possible expiry levels. Success in Bull Call spread depends on a combination of lower difference between chosen strike prices, and the lower strike price being in the money.

For a majority of the small traders in Stock Market, judging the nature (Bullish or Bearish) of the market is almost impossible. Also, it is impossible for even an experienced trader to predict the exact expiry level. So when does he enter Bull Call Spread? Answer lies in choosing the optimum entry point so that the premium outflow is optimum and there is an optimum chance of lower strike price Call being in the money. A research was conducted on Nifty to empirically verify the consequences of entering the Bull Call Spread at various time points in an F&O series. Strike prices chosen were first in the money and at the money strike prices. Aim of the study was to enable a trader to create a Systematic Trading plan by entering and exiting this strategy every month (F&O Series) at fixed time point and at fixed strike prices.

Research Design:

Stock chosen for research was Nifty. Each F&O series lasts for four to five weeks. Last Thursday of a month is the expiry point. This was chosen as the reference point for research. Four entry points chosen were first working day of expiry week, first working day of a week before expiry, first working day of two weeks before expiry, and first working day of three weeks before expiry. Two different strike prices were chosen as follows:

1) At the money point for shorting one call was chosen with reference to the opening futures price of the entry point. If for instance opening futures price of Nifty was between or equal to 5200 and 5249, 5200 was chosen as at the money strike price. If for instance it was between or equal to 5250 and 5300, 5300 was chosen as at the money strike price. This was consistent for all the entry points.

2) One strike price before at the money strike price was chosen as In the money strike price for buying one Call Option.

On an average, 10% of the total amount is the total margin required for shorting a call. When this shorted call is hedged by buying one in the money call option, buying premium is not added to the margin requirements by the brokerage houses. Thus, for instance, 5510 was the opening point at an entry point, Rs 27550 was the margin required for shorting one call i.e. 10% of (5510 x 50), where 50 is the lot size of Nifty. This is the margin prescribed by SEBI (Securities and Exchange Board of India). In reality, brokerage houses charge margins much lesser than this. However for calculation purposes, full prescribed margin has been considered. Also, calculations have been done for 1 Lot of investment.

Opening prices of all the Call options for the chosen strike prices were noted on the chosen time points. Their corresponding prices on expiry were also noted. Profit/ loss were thus calculated for each entry. Annualized return was calculated as follows:

1) **Entry Point 1** was first working day of expiry week. Since margin was required for only 4 calendar days every month, annualized return was adjusted accordingly.

2) **Entry Point 2** was first working day of one week before expiry week. Since margin was required for only 11 calendar days every month, annualized return was adjusted accordingly.

3) **Entry Point 3** was first working day of two weeks before expiry week. Since margin was required for only 18 calendar days every month, annualized return was adjusted accordingly.

4) **Entry Point 4** was first working day of three weeks before expiry week. Since margin was required for only 25 calendar days every month, annualized return was adjusted accordingly.

Base Margin for calculating the return was average monthly margin for all the four respective entry points.

Brokerage & Taxes are accounted for in the calculations @ Rs 25/ Lot. At entry point, Brokerage & Taxes are charged on all the two call options of the strategy. However, on expiry, Brokerage & Taxes are charged for only in the money Options (at the time of expiry). Traders need not exercise out of the money options and can let them expire without paying Brokerage & Taxes.

Tabulation of Results:

Table 1: Calculation of Monthly Profit/ Loss for 1 Lot and Adjusted annualized return at different entry Points

S.no	Series	Entry Point 1 Profit/Loss (Rs)	Entry Point 2 Profit/Loss (Rs)	Entry Point 3 Profit/Loss (Rs)	Entry Point 4 Profit/Loss (Rs)
1	June-11	1200	2100	1600	1500
2	May-11	1650	-2225	-2200	-3000
3	Apr-11	-2950	725	975	-2350
4	Mar-11	2250	1950	2050	2650
5	Feb-11	-2975	-175	-2900	-2300
6	Jan-11	-3125	1500	-2550	-2650
7	Dec-10	800	850	2550	1650
8	Nov-10	-3150	-2800	-3300	-2950
9	Oct-10	-3150	-2800	-2850	-2750
10	Sept-10	-1375	1400	2000	1450
11	Aug-10	-25	975	1150	1400
12	July-10	-1975	1850	1850	1750
13	June-10	1700	1750	1350	1400
14	May-10	2350	1850	-2125	-3300
15	Apr-10	-875	1300	-2700	-625
16	Mar-10	450	1600	1400	2000
17	Feb-10	125	1550	650	2050
18	Jan-10	-3500	-3850	-4250	-3000
19	Dec-09	1950	2250	2250	2550
20	Nov-09	-2575	1250	1900	2150
21	Oct-09	-3400	-2800	-3600	-3050
22	Sept-09	1625	2500	1750	2400
23	Aug-09	2600	2100	1950	1825
24	July-09	675	2600	2450	2400
25	June-09	-1625	-3300	-3100	-3450
26	May-09	1200	800	2250	2450
27	Apr-09	-3450	1050	2650	1850
28	Mar-09	2450	1650	2150	950
29	Feb-09	450	-3150	1475	1525
30	Jan-09	1650	1500	-1475	-2800
31	Dec-08	2300	-1975	-3600	2200
32	Nov-08	1000	75	-3050	-2500
33	Oct-08	-2350	-2900	-3550	-3300
34	Sept-08	2950	1800	-3500	-3350
35	Aug-08	1900	-3100	-2750	-2550
36	July-08	-3300	1900	1650	1150
37	June-08	-2975	-2700	-2550	-2750
38	May-08	2200	-3100	-2150	-3000
39	Apr-08	1050	2300	1800	2050
40	Mar-08	-1475	2150	2050	-625

41	Feb-08	-2050	2475	1650	-3450
42	Jan-08	1700	-2800	-3650	-3900
43	Total	-10075	8125	-14300	-18300
44	Adjusted Annualized Return (%)	(-91.96%)	27%	(-29.92%)	(-26.46%)

Table 2: No of Months / (%) of Expiry in different ranges

Entry Point	No of Months in Maximum Profit Zone	No of Months in Breakeven/Moderate Profit/Loss Zone	No of Months in Maximum Loss Zone
E.P 1	20 (47.62%)	13 (30.95%)	9 (21.43%)
E.P 2	24 (57.14%)	7 (16.67%)	11 (26.19%)
E.P 3	21 (50%)	4 (9.52%)	17 (40.48%)
E.P 4	19 (45.24%)	4 (9.52%)	19 (45.24%)

Table 3: Average Net Premium Outflow/Lot for Different Entry Points

Entry Point	E.P 1	E.P 2	E.P 3	E.P 4
Avg Net Premium Outflow / Lot (Rs)	3124	3013	3000	2930

Findings and Conclusions:

- Net Annualized profit of 27% was made from entering Bull Call Spread on first working day of a Week before Expiry. It's an excellent return, considering the extreme bear phase from January 2008 to Mid-2009. If we exclude this bear phase from our calculations, returns are much more. Also. this return is much more than annualized return on any traditional safe investment instrument.

- A trader simply needs to enter this strategy on a fixed time (opening time of first day of week before expiry), in a fixed manner (Selling at the money calls and buying equal number of first in the money calls), and square off the trade just before expiry. No other decision making is required in the complex and volatile stock market. Thus, month after month, trader can follow this Systematic Trading Plan, and earn money.
- As this trading plan is simple to follow, even a new comer in the stock market can understand it. People busy in their profession can earn extra income from this trading plan without spending much of their precious time. They need to act only twice in a month (on entry and expiry), and need not follow stock market on regular basis.
- Since losses are limited, even traditional safe playing investors can follow this plan. For long term investors in Stock Market, this can be a source to multiply their returns manifolds. Many leading brokers give 75 to 85% limit (of their total stocks in Demat Account) to cash segment investors for trading in derivatives. These investors can follow this trading plan without putting in any extra money, or without squaring off their cash portfolio. Thus, they can earn both on their cash investment as well as by trading Bull Call spread.
- Losses were made by entering Bull Call spread on other entry points. Thus, it's extremely important to enter Bull Call Spread at a right time.
- Entry point 2 had maximum expiries in the maximum profit Zone (Ref Table 2). Average Net premium outflow every month was Rs 3013 (Ref Table 3). Entry point 2 was No 3 in terms of net premium outflow. Thus, Entry point 2 gives optimum results on both the important parameters of Bull Call Spread.
- Entry Point 1 was the leader (No 4) in terms of net premium outflow (Lesser the net premium outflow, lesser are the maximum losses). It was at No 2 in terms of having expiries in Maximum profit zone. It was No 1 in terms of having expiries in Breakeven/Moderate Profit-Loss Zone. Yet, it showed the worst performance among all the Entry Points (In terms of Net adjusted annualized returns in % age terms). If we analyze the expiries in Breakeven/Moderate Profit-Loss Zone, out of 13 entries, losses were made on 10 entries. Even the remaining three entries showed nominal profits. If we consider entry point 2 on this

parameter, losses were made on only 2 entries of the total of seven. Thus, it can be concluded that near expiry, profit range is narrow.

- Entry points 3 and 4 showed 21 and 19 expiries in maximum profit Zone. Entry Point 3 had more expiries in maximum profit Zone than Entry Point 1. Entry point 4 was also not far behind. These figures were not far behind Entry Point 2. However, Entry points 3 & 4 had 17 and 19 entries respectively in Maximum loss Zone. This was much more than the other two entry points. This can be explained from the fact that by entering Bull Call spread near to expiry, there was lesser probability of expiry in the maximum loss Zone and Vice Versa. Entry Point 4 showed minimum net Premium Outflow. From Table 3, we can conclude that farther is the expiry point, lesser is the net premium outflow from this strategy.
- Traders should consider the trading plan of entering Bull Call spread at Entry Point 2 on longer term basis. As clear from Table 1, profits can't be made every month from this plan. However, over a longer period of time, there are likely to be more positive months than negative months. Important to note is that this strategy will not be effective in an extremely bearing phase. Also, traders should be disciplined in their entry point as well as choice of strike prices (as prescribed).

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