

# A Study on Option Strategies That Gives Consistent Returns during Covid Pandemic

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## ABSTRACT

During this COVID pandemic, the Indian stock market are very inconsistent because in March 2020 fall down to 7500 from 11380. And also, the Union Budget session are going on February month. By end of the March, the Indian government declared 21 days complete lockdown. By end of May, the COVID cases are in peak and also India facing the border issues with the China. Regardless of all these situations, this empirical study mainly expresses about the back testing of the option strategies on the Index Options. In India, derivatives have various categories to trade in stock exchanges like Futures, Options, Swaps, & Forwards. Types of Investors trading these derivatives contracts are Speculators, Arbitrageurs, & Hedgers. Most Investors are believed that options are too risky. The risk-based approach to these strategies is essential for investors. Because the risk is unlimited in these option contracts compared to the futures contracts. Indeed, Options are incompatible for all investors. Investors who are ready to bear significant risks while trading options are capable of these options. Actively watching the market movement is very important while trading derivatives. When you trading the options, entering and exiting at right time is decisive to the option traders. Iron butterfly and Iron condor are called neutral option strategies because these strategies can make money when the market has low volatility. The main purpose of this paper is to test the possible returns would make by putting money into two different option strategies (Iron Condor & Iron Butterfly) on the Index data mainly Nifty and Bank Nifty weekly & Monthly data for one year from 1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021.

**Keywords:** Option Contracts, Iron Condor, Iron Butterfly, COVID – 19, Derivatives, and Index options.

## I. INTRODUCTION

An “Option contract” that gives the option purchaser a right but not an obligation to sell or buy an asset in the future time because this is an agreement b/w two parties. Options have two types. They are call option and put option. In Call option, the buyer gives only right not the obligation to buy an instrument at a certain price. In Put option, the buyer gives only right not the obligation to sale an instrument at a fixed price. One can buy and sell each of the contracts. When anyone buys an option contract, he is said to be having a lengthy position and when one sells, he is said to be having a short position. To be distinguished that in the forwards and futures contracts the two parties had an obligation; i.e., the option buyer wants to pay for the instrument to the option writer and the option seller needs to deliver the instrument to the option buyer on the agreed date. In anticipation of option contracts, only the option writer is under an obligation and not the option purchaser. The option buyer has a right to buy the option or sell the option, the instrument from/to the seller of the option but he may or may not exercise this right. In case the purchaser of the option does exercise his right, the writer of the option must succeed whatever is his obligation (for a call option the seller has to deliver the asset to the purchaser of the option and in order to put option the seller has to receive the asset from the purchaser of the option). An option might be exercised at the expiry of the contract period (generally known as the European option contract) or anytime up to the expiry of the contract period (termed as the American option contract).

An Iron Condor is a neutral options strategy that profits furthest when the underlying instrument doesn't move much, although the strategy can be changed with a bearish or bullish bias. An iron condor is an options strategy that involves four different contracts of two puts and two calls, and four different strike prices, all with the same close date on the same

instrument. The Iron Condor earns the utmost profit when the underlying instrument closes b/w the middle strike prices at closure. The goal is to profit from low volatility in the asset. All four options are typically out-of-the-money. The cash collected represents the high profit for the scenario. It represents a market-neutral trade. Iron condor has two types of strategies. They are Long Iron Condor Strategy & Short Iron Condor Strategy.

An Iron Butterfly is an options trade that uses four different contracts as part of a strategy to benefit from stocks or futures prices that move within a definitive range. The trade is also assembled to benefit from a downturn in implied volatility. The crucial to using this trade as part of an influential trading strategy is to forecast a time when option prices are likely to decline in value normally. This normally occurs during periods of movement or a mild upward trend. The trade is also known as the Iron Fly. The assembly of the trade is common to that of a short straddle trade with an Long Call and Long Put option purchased for safety. Traders need to be conscious of commissions to be sure they can use this technique effectively in their accounts. Investors need to be conscious that their trade could lead to a trader's acquisition of the stock after expiration. The investor earns the max. profit when the underlying instrument closes exactly on the middle strike price on the close of the expiration date.

## **II. REVIEW OF LITERATURE**

### **When it comes to Options, Few Investors understand their Options (2011):**

This paper is published by TD Ameritrade Holding Corporation in 2011. TD Ameritrade Holding Corporation company conducted a telephonic survey from May 21, 2010, through June 19, 2010. 650 respondents have participated in this survey. Respondents are American investors who had a brokerage or Mutual Fund account. In this survey, most of the Investors are believed that options are too risky, don't need for the average Investor and some investors also don't know anything about the Options. Indeed, Options are not suitable for all investors. Investors who are ready to bear significant risks while trading options are capable of these Options. Actively watching the market volatility is very important. In options, entering at the right time and exiting at right time is very crucial to the Option Investors.

### **Golden Chariot Capital's (GCC) Foray into Options Trading (2019):**

This paper is published by Sangram K. Jena & Amarnath Mitra in 2019. It is a real

situation faced by research analysts to improve the performance of the funds under management by exploring the opportunities in the options segment. GCC is an investment firm that decides to provide long-term capital appreciation with a steady income to its investors. Ms. Indira, a research analyst at GCC, was given a task to identify and suggest alternative avenues of investment. She conducted a pilot study on the returns generated from the Income strategies. She came up with five strategies and they are covered call, covered put, short straddle, and Long Iron condor. Long condor helps the firm to get profits to their Investors in the long run.

### **Iron Butterfly and Iron Condor Options Strategies on Indian Banking Sector (2019):**

This paper is published by Gauraang Sharma, Jonathan Rodrigues & Harsh Dhanuka in 2019. This paper aims to test the returns an individual investor would make by investing in two different option spread strategies namely, Iron Butterfly and Iron Condor strategy on the Indian Banking sector stocks. The option contract chain for the top 3 listed banks based on the market capitalization is considered for December 2018 to design the strategies and the returns were calculated using the stock information on maturity. The paper also accommodates the possible returns that the investor would have made had all the call options been exercised and had all the put options been exercised by assuming the spot rate higher and lower than the maturity spot rate respectively. The returns obtained from both the strategies under these circumstances are checked for equality on individual bank stocks by interpreting the results for a hypothesis test concerning the equality of the population means of two approximately normal distributed populations.

### **Options Trading Strategies with Stock Options (2014):**

This paper is published by Scott J. Danes in 2014. There are many different options for investing and many types of financial instruments that can be used to accomplish your goal of making profits. One key financial tool that savvy investors and traders use is options. As with stocks, options can make a person considerable earnings. They are, however, much more versatile and dynamic than stocks. How so? Well, when trading stocks there are only two ways to make money. You can go "long" by buying a particular stock and waiting for it to go up in value and if that occurs you can sell it for a profit. The other way to turn a profit is to go "short." In this case, you sell shares of a company

and buy them back later at a lower price. Options trading is much more dynamic with dozens of different ways to make potential profits. Investors can trade options not only on stocks but also on currencies, commodities, and various indices. Many novice investors enter the stock market without the proper education and experience. These investors are missing out on considerable earnings by not trading options on the above vehicles. Options are available today on most stock exchanges and can be purchased through low-cost online brokers.

#### **Strategy vs risk in margining portfolios of options (2010):**

This paper is published by E. G. Coffman Jr & D. Matsypura & V. G. Timkovsky in 2010. The strategy-based approach to portfolio margining has been used for arguing customer accounts for more than four decades. The risk-based approach was proposed in the mid-eighties for margining some inventory accounts of brokers but permitted for margining customer accounts only in 2005. This paper presents a computational experiment with the strategy-based approach and the risk-based approach to clarify which one yields lower margin requirements under different scenarios.

### **III. STATEMENT OF THE PROBLEM**

In the present pandemic situation, the global economy got affected drastically. The approach of the market is becoming very volatile in a short time. Due to these situations, the investors went into a dilemma to invest their capital to earn significant profits. Need for strategies to earn consistent returns for investors. To check the how many options strategies will Win and Loss money during this pandemic financial year from 1st Apr 2020 to 31st Mar 2021.

#### **OBJECTIVES OF THE STUDY**

- 1) To know about the Iron Condor and Iron Butterfly option strategies.
- 2) To analyse these option strategies while the market has low volatile movement.

- 3) To create a temporary model using Quant man back testing simulator to predict the win/loss probability of Nifty & Bank Nifty.

#### **SCOPE OF THE STUDY**

- 1) To understand the Iron Condor and Iron Butterfly strategies on Index options of NSE Nifty & Bank Nifty.
- 2) This study mainly to check which strike index gives the utmost profits.

#### **HYPOTHESES**

No statistical tool is used to evaluate the hypotheses in this paper because only Option Backtesting is possible for this study. Backtesting of Index Options (Nifty & Bank Nifty) for weekly & monthly contracts from 1st April 2020 to 31st March 2021 using free backtesting simulator ([www.quantum.in](http://www.quantum.in)).

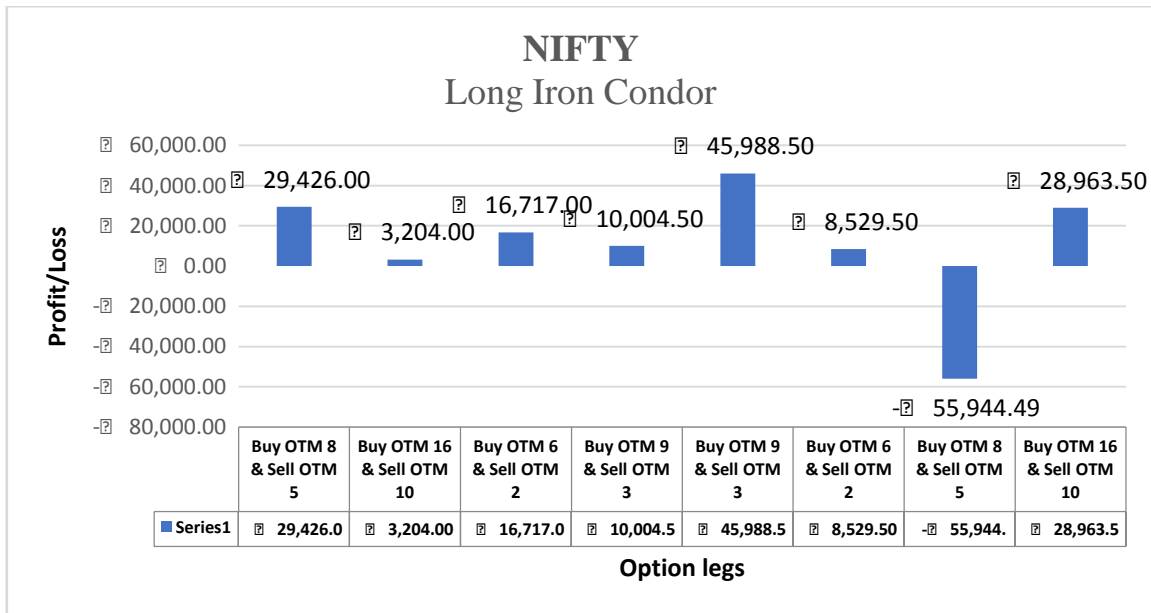
#### **Research Methodology:**

- Type of research** : Quantitative Research  
**Sources of data** : Secondary data  
**Sample size** : One financial year (1<sup>st</sup> April 2020 - 31<sup>st</sup> March 2021)  
**Sampling technique** : Weekly and Monthly Contracts of Index options (Nifty & Bank Nifty) data collected from the NSE website

### **IV. DATA ANALYSIS**

#### **NIFTY**

For **Long Iron Condor**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions are 2343 in one year time period. Weekly contracts: Transactions executed are 1206. The total profit is Rs.59351.5. Monthly contracts: Transactions executed are 1137. The total profit for this strategy is Rs.27537.01.

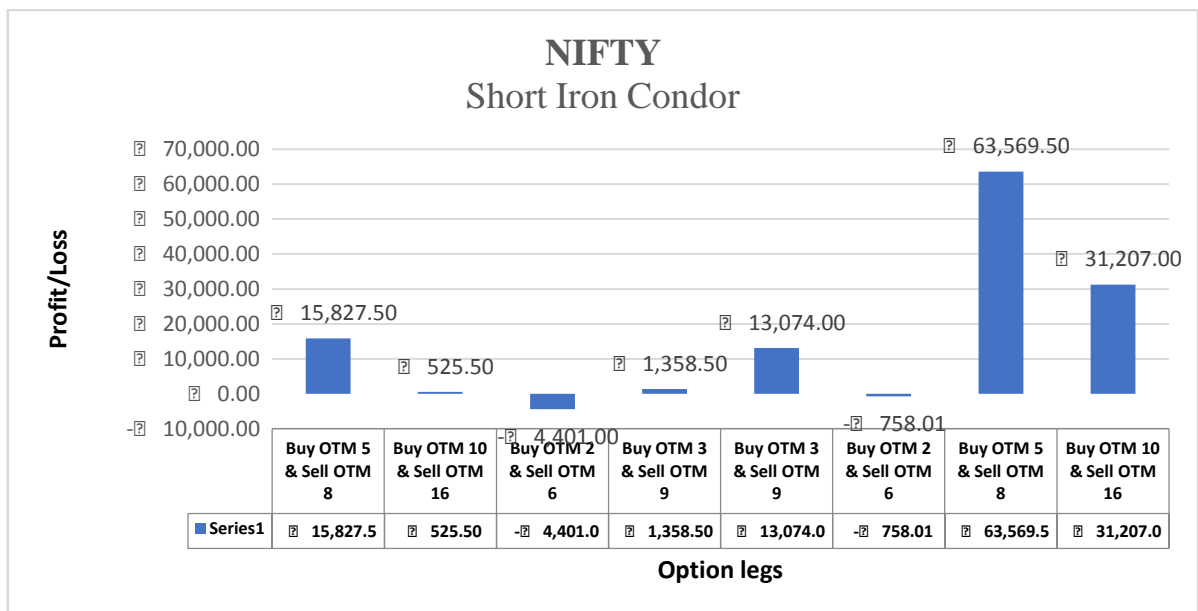


**Interpretation:**

For Long Iron Condor strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are weekly Nifty contracts where all got profits. Next four option strategies are monthly Nifty contracts where only 3rd option leg got loss.

For **Short Iron Condor**, it contains four option legs. They are Call option Long, Call option

Short, Put option Long, and Put option Short. Total executed transactions from 04th April 2020 to 31st March 2021 are 2077. Weekly contracts: Transactions executed are 1030. The total profit is Rs.13310.5. Monthly contracts: Transactions executed are 1047. The total profit is Rs.107092.49.



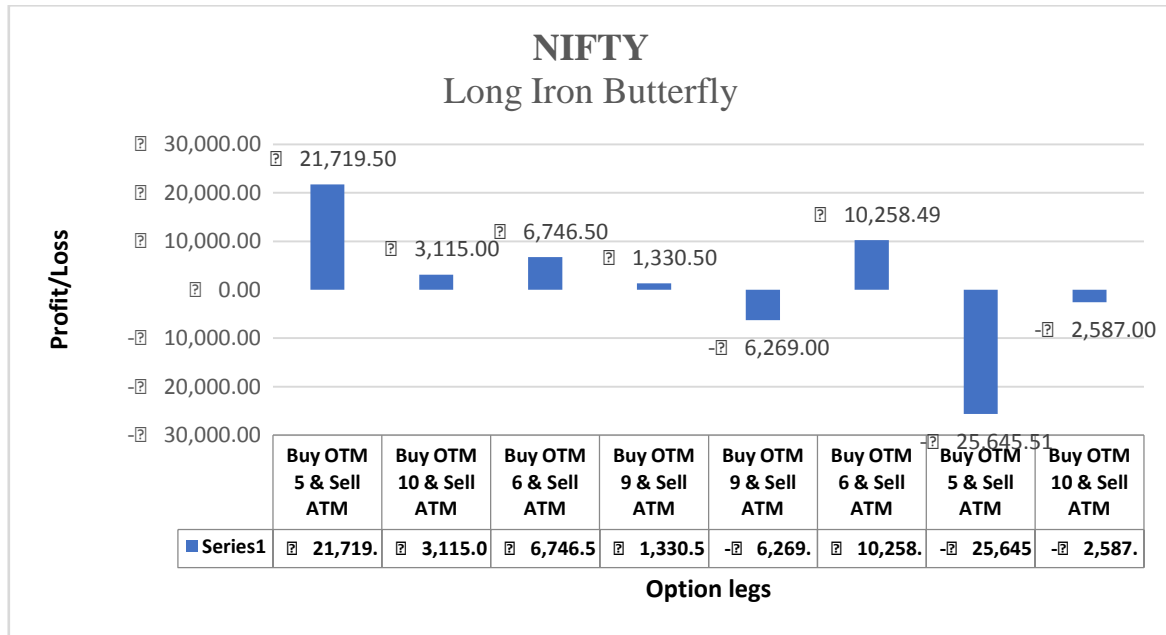
**Interpretation:**

For Short Iron Condor strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are

weekly Nifty contracts where only 3rd option leg got loss. Next four option strategies are monthly Nifty contracts where only 2nd option leg got loss.

For **Long Iron Butterfly**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions from 04th April 2020 to 31st March 2021 are 2236. Weekly

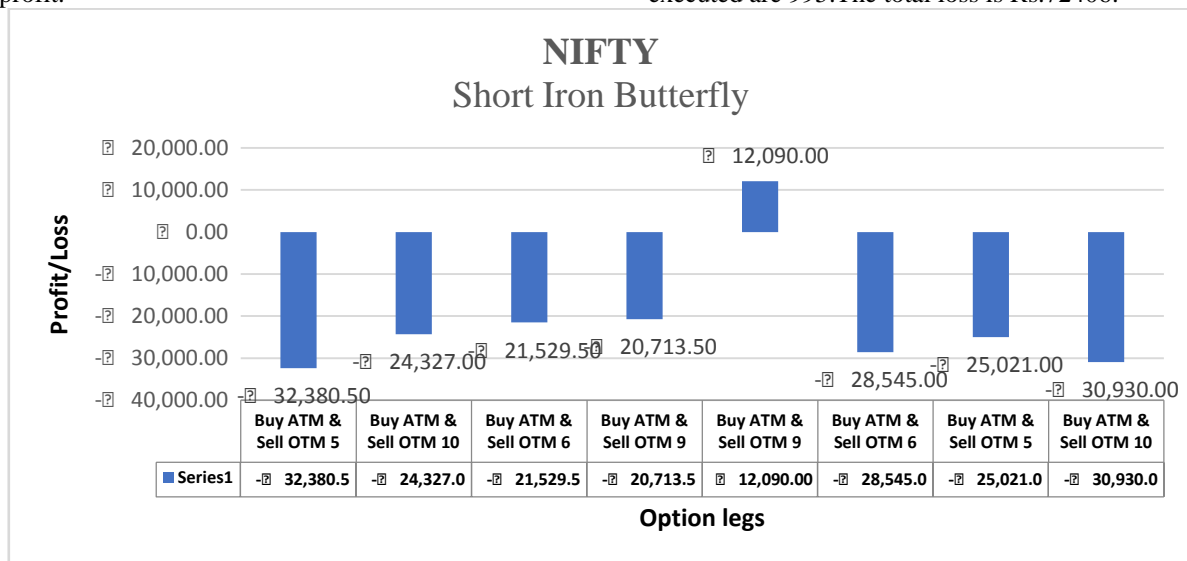
contracts: Transactions executed are 1170. The total profit is Rs.32911.5. Monthly contracts: Transactions executed are 1066. The total loss is Rs.24243.02.



**Interpretation:**

For Long Iron Butterfly strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are weekly Nifty contracts where all got profits. Next four option strategies are monthly Nifty contracts where only 2nd option leg got profit.

For **Short Iron Butterfly**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions from 04th April 2020 to 31st March 2021 are 1987. Weekly contracts: Transactions executed are 992. The total loss is Rs.98950.5. Monthly contracts: Transactions executed are 995. The total loss is Rs.72406.

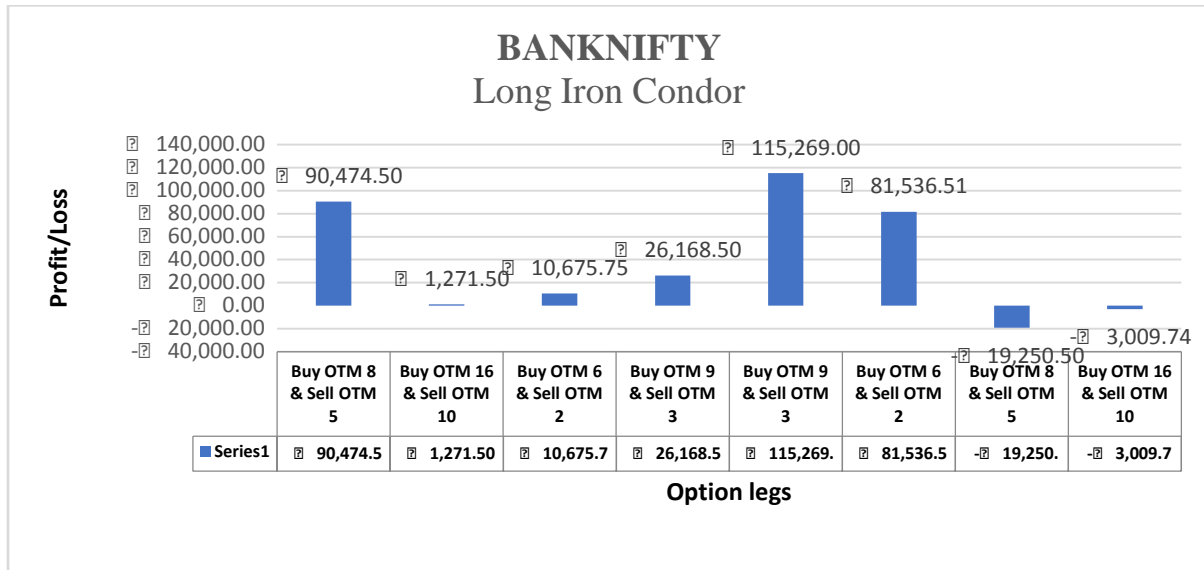


**Interpretation:**

For Short Iron Butterfly strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are weekly Nifty contracts were all got losses. Next four option strategies are monthly Nifty contracts were only 1st option leg got profit.

**BANKNIFTY**

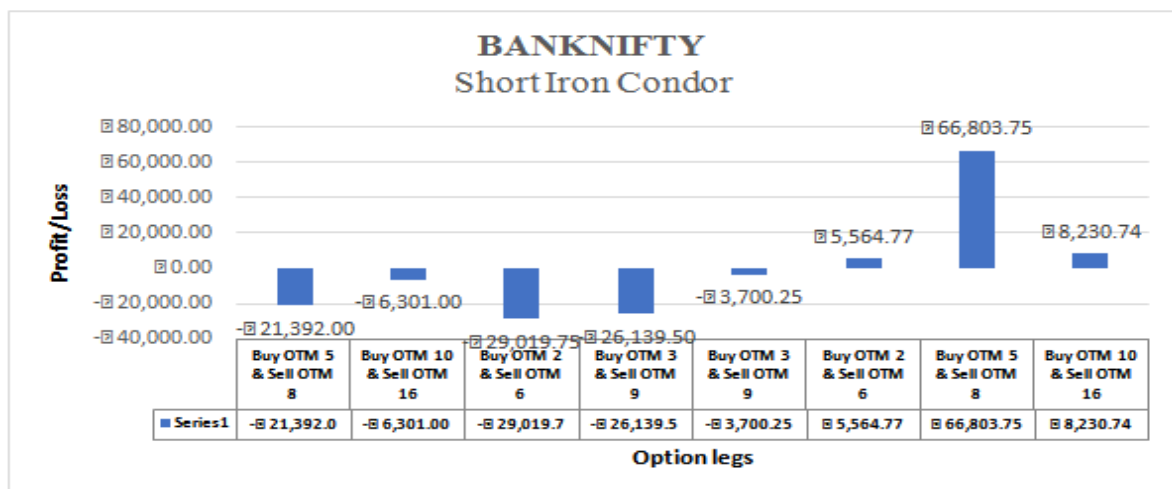
For **Long Iron Condor**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions are 2343 in one year time period. Weekly contracts: Transactions executed are 1175. The total profit is Rs.128590.25. Monthly contracts: Transactions executed are 1220. The total profit is Rs.174545.27.



**Interpretation:**

For Long Iron Condor strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are weekly Bank Nifty contracts where all got profits. Next four option strategies are monthly Nifty contracts where 3rd & 4th option leg got losses.

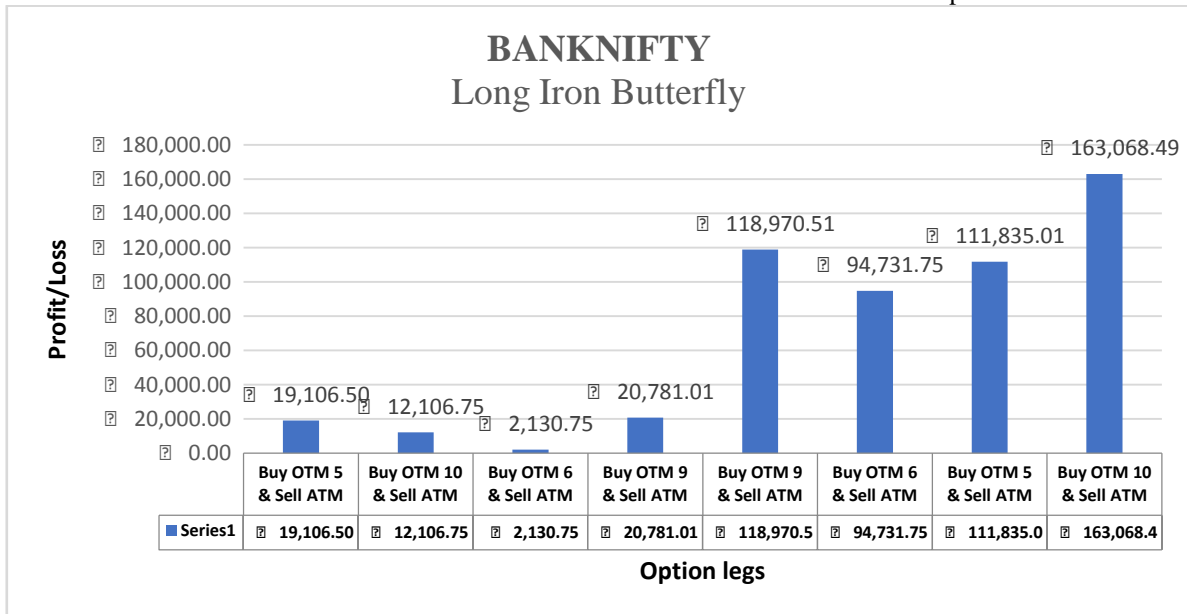
For **Short Iron Condor**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions from 04th April 2020 to 31st March 2021 are 2092. Weekly contracts: Transactions executed are 1004. The total losses Rs.82852.25. Monthly contracts: Transactions executed are 1088. The total profit is Rs.76899.01.



**Interpretation:**

For Short Iron Condor strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are weekly Bank Nifty contracts where all got losses. Next four option strategies are monthly Nifty contracts where only 1st option leg got loss.

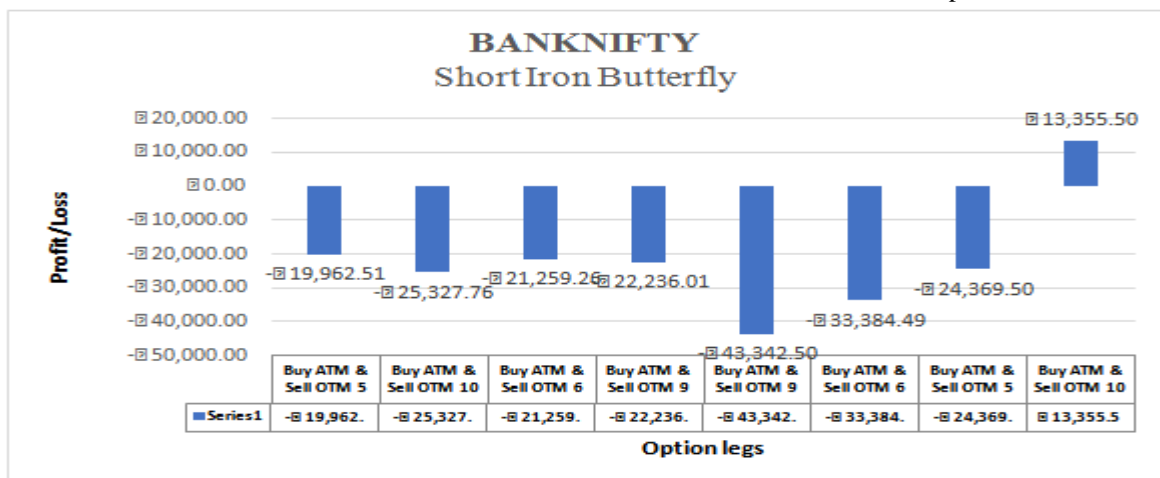
For **Long Iron Butterfly**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions from 04th April 2020 to 31st March 2021 are 2253. Weekly contracts: Transactions executed are 1156. The total loss is Rs.54125.01. Monthly contracts: Transactions executed are 1097. The total profit is Rs.488605.76.



**Interpretation:**

For Long Iron Butterfly strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are weekly Bank Nifty contracts where all got profits. Next four option strategies are monthly Nifty contracts where all got profits.

For **Short Iron Butterfly**, it contains four option legs. They are Call option Long, Call option Short, Put option Long, and Put option Short. Total executed transactions from 04th April 2020 to 31st March 2021 are 2009. Weekly contracts: Transactions executed are 995. The total loss is Rs.88785.54. Monthly contracts: Transactions executed are 1014. The total profit is Rs.87740.99.



**Interpretation:**

For Short Iron Butterfly strategy, I back-tested with eight different weekly & monthly option legs strategies. First four option strategies are

weekly Bank Nifty contracts were all got losses. Next four option strategies are monthly Nifty contracts were only 4th option strategy.

**V. FINDINGS**

For the Long Iron Condor strategy, the Win/Loss probability is

Index	NIFTY		BANKNIFTY	
Contract type	Make Profit	Make loss	Make Profit	Make loss
Weekly	4	-	4	-
Monthly	3	1	2	2

- For Long Iron Condor strategy, I back tested totally 16 different option leg strategies.
- For Nifty weekly data, all four option strategies got profits.
- For Bank Nifty weekly data, all four option strategies got profits.

- For Nifty monthly data has only 3 option strategies got profits and remaining one option strategy got loss.
- For Bank Nifty monthly data has 2 option strategies got profits & remaining 3 option strategies got losses.

For the Short Iron Condor strategy, the Win/Loss probability is

Index	NIFTY		BANKNIFTY	
Contract type	Make Profit	Make loss	Make Profit	Make loss
Weekly	3	1	-	4
Monthly	3	1	3	1

- For Short Iron Condor strategy, I back tested totally 16 different option leg strategies.
- For Nifty weekly data, has only 3 option strategies got profits and remaining one option strategy got loss.
- For Bank Nifty weekly data, all four option strategies got losses.

- For Nifty monthly data has only 3 option strategies got profits and remaining one option strategy got loss.
- For Bank Nifty monthly data has 3 option strategies got profits & remaining one option strategy got loss.

For the Long Iron Butterfly strategy, the Win/Loss probability is

Index	NIFTY		BANKNIFTY	
Contract type	Make Profit	Make loss	Make Profit	Make loss
Weekly	4	-	4	-
Monthly	1	3	4	-

- For Long Iron Butterfly strategy, I back tested totally 16 different option leg strategies.
- For Nifty weekly data, all four option strategies got profits.
- For Bank Nifty weekly data, all four option strategies got profits.

- For Nifty monthly data has only one option strategies got profit and remaining 3 option strategy got losses.
- For Bank Nifty monthly data, all option strategies got profits.



For the Short Iron Butterfly, the Win/Loss probability is

Index	NIFTY		BANKNIFTY	
	Make Profit	Make loss	Make Profit	Make loss
Weekly	-	4	-	4
Monthly	1	3	1	3

- For Short Iron Butterfly strategy, I back tested totally 16 different option leg strategies.
- For Nifty weekly data, all four option strategies got losses.
- For Bank Nifty weekly data, all four option strategies got losses.
- For Nifty monthly data has only one option strategies got profit and remaining 3 option strategies got losses.
- For Bank Nifty monthly data has one option strategies got profit & remaining 3 option strategy got losses.

## VI. CONCLUSION

Derivatives are contracts in which there is an underlying asset in the form of a stock, bond, currency, commodity, or another derivative. The Derivatives segment is governed by the SC(R)A 1956, SEBI Act, 1992, subsequent notifications by SEBI, and the respective byelaws of the exchanges on which they are traded. In India, currently, there are various futures and options traded on the major stock exchanges in stocks, indices, bonds, and currencies. Derivatives serve various economic functions such as transfer of risk, moving speculation to a controlled environment, and higher trading volumes due to leverage. Options are used effectively for hedging and speculation. An important consideration while speculating with options is the option premium being paid. The expected profits out of using an option for speculation must exceed the option premium being paid. Otherwise, it would be better to invest in the futures/equity market. The advantage with options is that the downside is restricted to the option premium paid. In India, NSE allows trading of stock and index futures, stock and index options having the maturity of 1-month, 2-months, and 3 months. More recently, long-term options have included the three quarterly and five halves yearly expire. In this study, we can conclude that after the back testing of the Nifty and Bank Nifty data using these neutral options strategies. You can acquire stable profits during this pandemic crisis because the economic condition is very unstable from 01st April 2020 to 31st Mar 2021. During this period, India faced two complete lockdowns in the whole country.

## VII. SUGGESTIONS

- Despite the economic crisis in the country, this Iron condor & Iron Butterfly strategy can make stable profits.
- Options are traded in both OTC and under Exchange. But I recommend that you only trade in Exchange-traded options because you can eliminate the counterparty risk.
- When you think, you would like to invest in the F & O segment then you must consider the risk and investing capital into these contracts.
- Without a lack of thought about the Derivatives market, don't trade in the F & O segment.

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