INTERNATIONAL SCIENTIFIC JOURNAL OF ENGINEERING AND MANAGEMENT (ISJEM) ISSN: 2583-6129
VOLUME: 04 ISSUE: 05 | MAY – 2025 DOI: 10.55041/ISJEM03741
AN INTERNATIONAL SCHOLARLY || MULTIDISCIPLINARY || OPEN ACCESS || INDEXING IN ALL MAJOR DATABASE & METADATA

A Study on Causes of Indian Investor's Losses in Options Trading

Mr. Shashank.D[1], Mr. Praveen Joshi[2]
Student of Department of MBA[1], Assistant Professor in Department of MBA[2]
Department of MBA [1&2], Parivarthana Business School, Mysore

Abstract:
The current study was undertaken to analyze profit and loss patterns for individual traders in F&O during the three-year period from FY22 to FY24, and for all the categories of investors in equity and equity derivatives markets during the Single year FY24. The results showed that 93% of over 1 crore individual traders incurred average losses of around 2 lakh per trader (inclusive of transaction costs). Top 3.5% of loss-makers, approximately 4 lakh traders, faced an average loss of 28 lakh per person over the same period, including transaction costs. Most of the profits were generated by larger entities that used trading Algorithms, with 97% of FPI profits and 96% of proprietary trader profits coming from algorithmic trading. The main reason is an average retailer's doing options buying.

Keywords: Options Buying, Options Greeks, Hedging, Premium, Trading, F&O, algorithmic Trading,

I. INTRODUCTION

A SEBI Study Reveals that 93% of Individual Traders Incurred Losses in Equity F&O between FY22 and FY24; Aggregate Losses Exceed ₹1.8 Lakh Crores Over Three Years A new study conducted by the Securities and Exchange Board of India (SEBI) has Revealed that over 9 out of 10 individual traders in the equity futures and options (F&O) Segment continue to incur significant losses. The aggregate losses of individual Traders exceeded ₹1.8 lakh crores over the three-year period between FY22 and FY24.

This study follows up on a report published by SEBI in January 2023, which found that 89% of individual equity F&O traders lost money in FY22. With increased participation of individual investors in equity and equity derivatives markets, the current study was Undertaken to analyze profit and loss patterns for individual traders in F&O during the Three years FY22 to FY24, and for all the categories of investors in F&O during the Single year FY24.

Key Findings of the Study:

1. High Loss Rates Among Individual Traders: 93% of over 1 crore individual F&O traders incurred average losses of around ₹2 lakh per trader (inclusive of transaction costs) during the three years from FY22 to FY24.Top 3.5% of loss-makers, approximately 4 lakh traders, faced an average loss of ₹28 lakh per person over the same period, inclusive of transaction costs. Only 1% of individual traders managed to earn profits exceeding ₹1 lakh, after Adjusting for transaction costs.

2. Profit Distribution Among Proprietary Traders and FPIs:

i. In contrast to individual traders, proprietary traders and Foreign Portfolio Investors (FPIs) as a class booked gross trading profits of ₹33,000 crore and ₹28,000 crore, respectively, in FY24 (before accounting for transaction costs). Against this, Individuals and others incurred a loss of over ₹61,000 crore in FY24 (before accounting for transaction costs).

ii. Most of the profits were generated by larger entities that used trading Algorithms, with 97% of FPI profits and 96% of proprietary trader profits coming from algorithmic trading.

3. Transaction Costs for Individual Traders:

i. On an average, individual traders spent ₹26,000 per person on F&O transaction Costs in FY24.

ii. Over the three-year period from FY22 to FY24, individuals collectively spent About ₹50,000 crore on transaction costs, with 51% of these costs being Brokerage fees and 20% being exchange fees.

4. Increasing Participation of Young and B30 City Traders:
- The proportion of young traders (below 30 years) in the F&O segment rose from 31% in FY23 to 43% in FY24.
- Individuals from Beyond Top 30 (B30) cities made up over 72% of the total F&O Trader base, a higher proportion compared to mutual fund investors, 62% of Whom are from B30 cities.

5. Income Profiles of Traders: Over 75% of individual F&O traders in FY24 had declared an annual income of Less than ₹5 lakh.
6. Trading Behavior and Persistence: Despite consecutive years of losses, more than 75% of loss-making traders continued trading in F&O. The full study is available on the SEBI website at www.sebi.gov.in

Objectives of the study: _

- To study the awareness of trading and stock market in people.
- To study the volatility of the markets.
- To study the reasons behind the losses incurred by the option traders in the markets

II. LITERATURE REVIEW

1. **SEBI "Analysis of Profit and Loss of Individual Traders Dealing in Equity F&O Segment":** In this analysis we can understand that 89% of the individual traders in equity F&O and index options segment incurred losses. That is 9 out of 10 individual traders making losses.

2. **J.A. Carlson and C.L. Osler (1997) "Rational Speculators and Exchange Rate Volatility":** The exchange rate volatility varies according to two types of shocks, some shocks such as changes in liquidity demand. It does not affect on speculator's portfolio the others shock is changes in interest rate. It's directly changes speculators portfolio. In this area the expertise are limited.

3. **Mohammad G. Robbani and Rafiqul Bhuyan (2004) "Introduction of Futures and Options on a stock index and their impact on the trading volume and volatility: Empirical evidence from the DJIA components":** The introduction of index futures and options are affecting the volatility of the underlying stock. And it attracts more uniformed or irrational traders in both the derivatives and stock markets in search of short-term gains.

4. **Prof. Shalini H S and Dr. R. Duraipandian (2014) "Analysis of Option Trading Strategies as an Effective Financial Engineering Tool":** Options can be used to create portfolios with unique features, capable of achieving investment objectives not attainable with futures.

5. **Ashutosh Vashistha and Satish Kumar (2010) "Development of Financial Derivatives Market in India- A Case Study":** Financial markets have experienced rapid variations in interest and exchange rate, stock market prices thus exposing the corporate world to a state of growing financial risk. Increased financial risk causes losses to an otherwise profitable organization.

6. **K Soniya, G. Mohanraj and Dr P. Karthikeyan (2013) "A Study on Financial Derivatives (Future & Options) with Special Reference to ICICI & SBI":** In cash market the profit and loss of the investor depends on the price of the underlying asset. The investor may incur huge profit or he may incur huge losses.

7. **Mr. Venkatesha (2022) "Derivatives Market in India – Futures and Options":** The financial markets are marked by a very high degree of volatility. Through the use of derivative products, it is possible to partially or fully transfer price risks by locking in asset prices.

8. **Dr. Premalata Shenbagaraman "Do Futures and Options trading stock market volatility?":** The effect of information was persistent over time, i.e. a shock to today's volatility due to some information that arrived in the market today, has an effect on tomorrow's volatility and the volatility for days to come.

9. **Kedar nath Mukherjee and R.K. Mishra "Effect of Option Trading in cash Market: Empirical Evidence from Non-price Variables":** The option expiration effect would not arise exactly on the expiration date, but starts at least from the previous five days up to the date of expiration.

10. **Dr. Ramesh S. Kalamkar (2012) "A STUDY ON PROBLEMS & PROSPECTS OF OPTION TRADERS IN INDIA: WITH REFERENCE TO STOCK O [PTIONMS TRADED IN NATIONAL STOCK EXCHANGE":** The possibility that an option trader can reduce the amount of premium he pays by using option trading strategies rather than just one option contract.

11. **Atharva Joshi, Balaji Venkateswaran and Ritabarata Bhattacharyya "Option Selling strategy using Machine Learning":** Option trading is considered widely attractive due to the leverage and subsequent high returns associated with it. As it expected high returns are also accompanied by high risks and it is important to understand all the risks associated with options trading. In the mathematical framework these risks are represented by the options Greeks, i.e. sensitivity of options price to factors like underlying price movement(delta), volatility (Vega) and theta (sensitivity to time to expiry).

12. **Ivan Guo and Gregoire Loeper (2020) "Designing All-Weather Overlays – A Study on Option-based Systematic Strategies":** The Short Call position is supposed to generate Alpha in bear to moderately bullish market conditions while the long-Put position will offer downside protections limiting the drawdown, at the expense of paying a negative carry.

13. **Ilknur Ucar, Ahmet Murat Ozbayoglu and Mustafa Ucar (2015) "Developing a Two-Level Options Trading Strategy Based on Option Pair Optimization of Spread Strategies with Evolutionary Algorithms**": Implementing successful and profitable trading strategies have been studied both in academia and financial industry for a while. Most of these studies were concentrated on stock market forecasting, trend detection, and strategy development based on technical indicators. Meanwhile some researchers focused on financial optimization problems such as optimum portfolio allocation, technical indicator optimization, optimum pairs trading selection, etc.

14. **Charalampos Stasinakis and Georgios Sermpinis (2014) "FINANCIAL FORECASTING AND TRADING STRATEGIES: A SURVEY":** Forecasting the market behavior has always been in the center of scientific research by academics financial and government institutions. The modern market practice has a tendency to turn to market technical indicators, whose verity and computation demands are increasing exponentially. This is the main reason that technical analysis and computing appear to link how more than even before charting software are applied every day to actual pr virtual financial markets. Optimization algorithms are automatically integrated in trading platforms, such as Bloomberg and make the life of the intraday trader much easier.

15. **Hemraj Kawadkar and Tushar Kodu (2022) "Options Trading Strategies – A Guide for New Investors":** Trading options have advantages such as downside protection and leveraged returns, but also disadvantages, such as the wide range of strike prices and expiration date s can make it challenging for an inexperienced investor"

16. **Toopalli Sirisha and Dr. Nallabala Kalyan (2019) "A STUDY ON THE DERIVATIVES MARKET IN INDIA":** The stock market will give high returns to the investors who can bear high risk. Where derivatives are instrument used to minimize the risk and covered the loss occurred in the stock market. The options will give more returns and less risk when compared to futures.

III. Population and sample.

The study is conducted with the help of google survey and by google form. this study is limited to Mysore, Karnataka, India.

IV. Data and analysis.

Sl.no	Question	Option1	Option 2	Option 3	Option 4	Total Responses
	From how many years are you doing F&O trading	< 1 year. (70%) (21)	2 years. (10%) (3)	3 years. (10%) (3)	More than 4 years. (10%) (3)	(100%) (30)
2	How you come to about F&O trading	Teacher. (3.3%) (1)	Friends. (76.7%) (23)	YouTube. (13.3%) (4)	Others…… Self. (3.3%) (1) Father. (3.3%) (1)	(100%) (30)
3	which APP are you using for trading	Grow (50%) (15)	Zeroda (26.7%) (8)	Angle one (10%) (3)	Others…… Dhan. (6.7%) (2) Kotak. (3.3%) (1) Upstox. (3.3%) (1)	(100%) (30)
4	Are you a _____ trader.	Intraday. (36.7%) (11)	Swing. (36.7%) (11)	Scalper. (20%) (6)	Others Equity trading (long term) (3.3%) (1)	(100%) (30)
5	In which segment are you active _____.	Index options. (33.3%) (10)	Equity options. (60%) (18)	Commodities options. (6.6%) (2)	Others……	(100%) (30)
6	In which segment are you more profitable _____.	Index options. (43.3%) (13)	Equity options. (53.3%) (16)	Commodities options. (3.3%) (1)	Others……	(100%) (30)
7	Are you an _____.	Option seller. (16.7%) (5)	Option buyer. (83.3%) (25)	_	_	(100%) (30)
8	In which one of the below are you more profitable _____.	Option buying. (80%) (24)	Option selling. (20%) (6)	_	_	(100%) (30)
9	Are you trading in expiry days _____.	Yes. (40%) (12)	No. (60%) (18)	_	_	(100%) (30)
10	Are you profitable on expiry days ___.	Yes. (33.3%) (10)	No. (66.7%) (20)	_	_	(100%) (30)
11	Are you trading in _____ options.	Long term (46.7%) (14)	Short term (53.3%) (16)	_	_	(100%) (30)
12	Your winning streak, in out of 10 trades _____.	0-2. (26.7%) (8)	3-5. (53.3%) (16)	6-8. (13.3%) (4)	9-10. (6.7%) (2)	(100%) (30)
13	Are you do Hedging for your trade _____.	Yes. (36.7%) (11)	No. (63.3%) (19)	_	_	(100%) (30)
14	Your age _____.	18 – 25. (63.3%) (19)	25 – 35. (23.3%) (7)	35 – 45. (13.3%) (4)	More than 45. -	(100%) (30)
15	Your gender _____.	Male. (83.3%) (25)	Female. (16.7%) (5)	Others _	_	(100%) (30)
16	Your education qualification _____.	PUC. (3.3%) (1)	Graduate. (26.7%) (8)	Post graduate. (70%) (21)	1 – 9. - SSLC. & Others… -	(100%) (30)

Data Analysis and Interpretation

1. In the above 30 responses 21 (70%) responses are doing F&O trading less than 1 year. It is a beginning stage. Most of the traders are making loss their money in the starting year. And 3(10%) respondents are doing F&O trading in last 2 years. They are better than the, that 21 respondents. Further 3 (10%) respondents are doing F&O trading in last 3 years, they are much have experience than 24 respondents. The remaining 3 (10%) respondent have more than 4 years of experience in the F&O trading. Which might offer a better strategy or better selection of F&O.

2. In the 30 responses 23(76.7%) responses are learn trading from his friends. 4(13.3%) respondents are learning F&O trading from YouTube. It shows their interest on F&O trading. YouTube facilities a platform for discussion over platforms. 1(3.3%) respondent learn from his teacher to how to do F&O trading. 1(3.3%) respondent learn from practicing F&O. 1(3.3%) respondent learn from their family members.

3. In 30 responses 15(50%) respondents are using the grow APP and 8(26.7%) respondents are using the zerodha APP. 3(10%) respondents are using Angle one APP. 2(6.7%) respondents are using Dhan APP. And 1(3.3%) respondent is using Kotak APP and remaining 1(3.3%) respondent using the Upstox APP. Which states their technical ability and knowledge in trading and independence.

4. In 30 responses 11(367%) respondents are Intraday traders. SEBI tells that more than 95% traders make loss in trading. That all traders are Intraday traders.11(36.7%) respondents are swing traders. Swing trading is much better than the Intraday trading. Which is more prone to losses.6(20%) respondents are scalpers. It is high risk, high reward trading strategy. It requires a high IQ and more knowledge. Remaining 1(3.3%) respondent is doing equity trading (long term) like positional trading. It is much safer than other 3.

5. In 30 responses 18(60%) respondents are active in equity options. In some equity options there is a less liquidity. 10(33.3%) respondents are active in the index options. Index options have more liquidity but more volatile. 2 (6.6%) respondents are active in the commodities.

6. Out of 30 responses 16 (53.3%) respondents are more profitable in equity options. In this there is less Volatile. 13 (43.3%) respondents are more profitable in index options. 1 (3.3%) respondent are more profitable in commodities. Which states volatility and risk & reward.

7. Among 30 responses 25 (83.3%) respondents are option buyers. Out of 10 trades 7 trades incurred loss by the option buyer. Option buying required less amount but have less winning rate. Rest of 5 (16.7%) respondents are option seller. Big institutions., hedge funds, HNI's etc. They are all do option selling. It requires more amount, but have a more success rate.

8. While 24 (80%) respondents say they are more profitable in option buying. Which might be because of less capital availability.
9. Remaining 6 (20%) respondents are more profitable in option selling.

10. In 30 responses 18 (60%) respondents are not do trading on expiry days. Because the expiry days has high volatility. Rest 12 (40%) respondents do trading on expiry days.

11. Out of 30 responses 20(66.7%) respondents are not profitable on expiry days. 10 (33.3%) respondents score profit on expiry days.

12. Among 30 responses 16 (53.3%) respondents are trading short term options. 14 (46.7%) respondents are trading long term options. Big hedge funds, big institutions, big investors always focus on long term.

13. Out of 30 responses 16 (53.3%) responses have 3-5 winning streak. 8 (26.7%) respondents have 0-2 winning streak it is very less success rate. And 4 (13.3%) respondents have 6-8 winning streak. 2 (6.7%) respondents have 9-10 winning streak. It denotes the experience of traders.

14. Among 30 responses 19 (63.3%) respondents don't do hedge for their trades. It might be the reason for loss. Remaining 11 (36.7%) respondents are do hedge for their trades to diversify the risk.

15. Out of 30 responses 19 (63.3%) respondents are 18-25 age group. It is a young age. And don't have much knowledge and experience. 7 (23.3%) respondents are 25-35 age group. They have little more experience than that of 19 respondents. 4 (13.3%) respondents are 35-45 age group they are more knowledge and more experienced than rest of 26 respondents.

16. Among 30 responses 25 (83.3%) respondents are male. Remaining 5 (16.7%) respondents are female.

17. In 30 responses 21 (70%) respondents are post graduates. 8 (26.7, %) respondents are graduates and remaining 1 (3.3%) respondent education qualification is 12th (PUC).

V. Theoretical Framework.

Trading Meaning

In the stock market, Trading refers to the buying and selling of financial instruments like stocks, bonds, commodities, derivatives and other financial securities over a short period to earn profits.

Types of Trading

1. Day Trading: Buying and selling with in the same trading day.
2. Swing Trading: Holding positions for several days to capture Medium-term market moves.
3. Scalping: A fast – paced strategy that focuses on profiting from small price changes.
4. Positional Trading: Holding a trade for weeks or months, based on long-term trends.

Different market segments

1. Equity Market
2. Derivatives Market
3. Commodity Market
4. Currency Market
5. Forex Market
6. Bond Market, etc.

Derivatives market

The derivatives market is a financial market place where derivatives are traded. A derivative is a financial instrument whose value is derived from the value of an underlying asset, index, etc.

Types of Derivatives

1. Futures contract
2. Options contact
3. Forwards contract
4. Swaps contract

Futures contract

A futures contract is an agreement to buy or sell an underlying asset at a predetermined price at a future data. Futures are legally binding contracts and they have an expiry date. Typically, the last Thursday of every month for stocks futures in Indian.

Key features:

1. Leverage: You can take larger positions with a smaller amount of capital.
2. Margin requirement: Futures trading requires an initial margin and a maintenance margin (determined by SEBI)

3. Mark - to – market (MTM): Futures positions are marked to market daily, meaning profits and losses are calculated and settled every day based on the closing price.

Options contact

It is a contact between two parties to buy or sell an asset at a pre-determined price at specific date.

There are two types of options

1. Call options: Buying the call options gives you right to Buy the stock or underlying and called as CE (call European).
2. Put options: Buying the put options gives you right to Sell the stock or underlying and called as PE (put European).

Concepts of options

1. Strike price: strike price is the price at which you are ready to buy or sell asset.
2. Expiry: Expiry Day is the day on which option contact expires.
3. Option premium: premium is the money paid by the option buyer to seller at the time of entering trade called as value of strike price.
4. Exercising: exercising means claiming the right of option contract at the end of expiry or we can call it as settlement of contract.

Types of strike price

1. In the money (ITM): For a call option strike prices which are below the underlying price are ITM options. For a put option strike price which is above the underlying price are ITM options.
2. At the money (ATM): Strike price which is equal to underlying price is called ATM.
3. Out of the Money (OTM): For a call option strike price which are above the underlying price are OTM options. For a put options strike price which is below the underlying price are OTM options.

Strategies in F&O

Hedging: Hedging is an advanced risk management strategy that involves buying or selling an investment to potentially help reduce the risk of loss of an existing position.

Speculation: Speculation (also known as speculative trading) is a financial term that refers to the act of purchasing an asset (a commodity, good or real estate) that has a substantial risk of losing value but also holds the hope of gaining value in the near future.

Arbitrage: Arbitrage is the simultaneous purchase and sale of an asset in different markets to exploit tiny differences in their prices. Arbitrage trades are most commonly made in stocks, commodities, and currencies, but can be accomplished in with any asset. Arbitrage takes advantage of the inevitable inefficiencies in markets.

Key terminologies in F&O

1. Underlying asset: The asset on which a futures or options contact is based. (Stocks, indices, commodities, etc.)
2. Strike price: The price at which the buyer of an option can buys (in a call) or sell (in a put) the underlying asset.
3. Premium: The cost paid to acquire an option contact.
4. Lot size: The standard quantity of the underlying asset in one futures or options contact.
5. Expiration date: The date on which the contact ends, and the settlement must occur.
6. Margin: The initial deposit required to trade futures contracts, which acts as collateral.

Forward contact

A forward contract is a customized contract between two parties to buy or sell an asset at a specified price on a future date. A forward contract can be used for hedging or speculation, although its non-standardized nature makes it particularly apt for hedging.

Forward contracts are considered Over-the-counter (OTC) instruments means buying and selling of securities and other financial instruments directly between two parties, without the supervision of an exchange.

There are several types of forward contracts, including:

- Fixed forward contracts: -The exchange rate and settlement date are set at the beginning of the contract. This is a good option for businesses that want to avoid currency market fluctuations and have specific future payment obligations.
- Open forward contracts: - The exchange rate is set at the beginning of the contract, but the settlement date is flexible. The contract holder can choose a time window to settle the contract within.
- Window forward contracts: -Similar to open forward contracts, but the contract holder can settle the contract at any point within a defined period. This is useful when the exact timing of the transaction is uncertain.

- Non-deliverable forwards (NDFs): -A specialized tool for currencies that are not freely traded. Instead of exchanging currencies, the parties settle the contract in cash.
- Flexible forwards: -The parties exchange money that is normally on or before the maturity date.
- Closed outright forwards: -The exchange rate is agreed upon between the two parties as to the prevailing spot rate plus the premium.
- Long dated forwards: -Similar to short-dated contracts, but the maturities are normally for a longer period of time.

Swaps: -Swap derivatives are financial contracts that allow two parties to exchange cash flows or assets over a set period of time. They are a type of derivative, but their value is not derived from an underlying asset or security. Swaps are commonly used to hedge risk or speculate on future price movements. They are often used by businesses or financial institutions, and are not generally intended for retail investors.

Here are some key features of swaps:

- Customization
- Swaps can be customized to meet the specific needs of the parties involved.
- No initial principal exchanges
- Swaps focus on exchanging financial obligations or benefits, rather than exchanging principal.
- Over-the-counter (OTC) contracts
- Swaps are traded privately in the OTC market, unlike options and futures, which are traded on a public exchange.
- Notional principal amounts
- Swaps are based on notional principal amounts, such as those from loans or bonds.

Types of swaps: -

- Interest rate swaps: A party exchanges a fixed interest rate for a floating rate, or vice versa.
- Credit default swaps: One party agrees to pay the buyer of the swap for the principal and interest of a loan if the borrower defaults.
- Commodity swaps: A swap based on commodities.
- Debt-equity swaps: A swap based on debt and equity.
- Total return swaps: A swap based on total return.
- Currency swaps: A swap based on currency.

OPTIONS CONTRACT

- It is a contact between two parties to buy or sell an asset at a predetermined price at specific date.
- Option selling: -Option selling, also known as “writing options,” refers to the process where traders or investors sell options contracts, either calls or puts, to other market participants.
- **Types of option selling**.
- Call Option Selling (Writing Calls): - When you sell a call option, you’re giving the buyer the right to purchase an underlying asset from you at a specified strike price before or on the expiration date. In exchange, you receive a premium.
- Put Option Selling (Writing Puts): -When you sell a put option, you are giving the buyer the right to sell you an underlying asset at a specified strike price before or on the expiration date. In exchange, you receive a premium.

Option buying.

Option buying involves purchasing call or put options to gain the right, but not the obligation, to buy or sell an underlying asset at a predetermined price (the strike price) before or on a specified expiration date. Option buyers pay a premium (the price of the option) to the seller in exchange for this right. The main appeal of option buying is that it offers limited risk (the premium paid) and potentially high rewards based on the movement of the underlying asset.

Types of options Buying.

- Call options: Buying the call options gives you right to Buy the stock or underlying and called as CE (call European).
- Put options: Buying the put options gives you right to Sell the stock or underlying and called as PE (put European).

Concepts.

- Strike price: strike price is the price at which you are ready to buy or sell asset.

- Expiry: Expiry day is the day on which option contact expires.
- Option premium: premium is the money paid by the option buyer to seller at the time of entering trade called as value of strike price.
- Exercising: exercising means claiming the right of option contract at the end of expiry or we can call it as settlement of contract.

Types of strike price

- In the money (ITM):
- For a call option strike prices which are below the underlying price are ITM options. For a put option strike price which is above the underlying price are ITM options.
- At the money (ATM):
- Strike price which is equal to underlying price is called ATM.
- Out of the Money (OTM):
- For a call option strike price which are above the underlying price are OTM options. For a put options strike price which is below the underlying price are OTM options.

- **Options value**
- The option premium can be thought as the sum of two different numbers that represent the value of the option.

- Intrinsic value: The intrinsic value of an option represents how much in the money it is.
- Intrinsic value of a call option = underlying price – strike price.
- Intrinsic value of a put option = strike price – underlying price.

- Time value: The time value of an option is an additional amount an investor is willing to pay over the current intrinsic value. Investors are willing to pay this because an option could increase in value before its expiration date.
- Time value = option premium – intrinsic value.

Option GREEKS

- Option Greeks measures the sensitivity of an option price we have 5 option Greeks.

1. DELTA:

Delta tells us rate of change of the option price compared with the price movement of the underlying price. Call options have a positive Delta, put options have negative Delta.

• Call option Delta will move between 0 to 1. • Put option Delta will move between 0 to -1.

EXAMPLE:
CALL side
Stock price = 100
Strike price = 100
100CE = 5
Delta = 0.5

Stock price moves to 110, so 10*0.5 = 5.
100CE new price 5+5= 10
Stock price moves to 92, so -8*0.5 = -4.
100CE new price 5-4=1

PUT side
Stock price =100
Stock price =100
100PE = 5
Delta = -0.5
Stock price moves to 90, so -10*-0.5 =5.
100PE new price 5+5=10
Stock price moves to 106, So 6*-0.5 =-3.
100PE new price 5-3=2

We can also look Delta in another way that is, Delta is the probability of the option expiring ITM. If Delta is 0.80, that means there is an 80% probability of a call option Expiring ITM.

CALL	=	ITM	> 0.5 and <= 1.0	PUT	=	ITM	<-0.5 and >=-1.0
		ATM	0.5			ATM	-0.5
		OTM	>=0.0 and < 0.5			OTM	<=0.0 and >-0.5

2. GAMMA:

Delta is dynamic, means whenever there is change in underlying, time, volatility the value of Delta will change. So, Gamma tells us how much Delta can change if there is movement in underlying. In simple word Gamma is the speed of the Delta.

EXAMPLE:
Stock price = 100,
Strike price = 100,
100CE = 5,
Delta = 0.5,
Gamma = 0.02.

Stock price moves to 110, so 10*0.5 = 5,
100CE new price 5+5=10.
Now what is the Delta of 100CE, now it is ITM
10*0.02= 0.2, So New Delta 0.5+0.2 = 0.7

Stock price moves to 92, So -8*0.5 = -4,
100CE New price 5-4 = 1.
Now what is the Delta of 100CE, now it is OTM
-8*0.02 = -0.16, so new Delta 0.5-0.16 = 0.34.

Gamma expressed 1 positive number and it moves between 0 to 1. The higher the gamma value higher the movement in Delta.

Gamma is high when option is near the money that is when price and strike price are near, this is because the probability of options become ITM or OTM is maximum in this area, OTM and ITM lesser than the ATM. • Large gamma helps the option buyer. • When you buy options, you are long gamma, when you short options, you are short Gamma. • When sharp price moves against the option seller, Gamma hurts option seller.

2. **THETA**:

The Theta or time decay is the rate at which an option loses value as time passes.

• Both call and put loose the value as time passes. • Theta expressed in points lost per day when all the conditions remain same. • A Theta of -10 indicates that the option premium will loss -10 points for every day that passes.

EXAMPLE:

If an option is trading at so rupees with the Theta of -10 then it will trade at 40 rupees. The next day (provided other things are kept constant).

• Theta is helpful for option seller and negative for buyer. • So, option seller tries to catch this time decay. • When there are many days for expiry the option does not lose much value, as we approach the expiry of the series – the effect of theta is high. • ATM option which is near the expiry has high Theta. Because it has the high time value. So, if you are option buyer avoid ATM option near the expiry. • For options that are ITM, the intrinsic value is a larger component of the option price that the time value, because of that it has lower Theta. • Options that are ITM have only time value, option that is deep ITM, tend to have lower time values, because the probability of them Expiring ITM is low.

4. VEGA:

Vega tells us the change in option price for every 1% change in volatility.

- Volatility: Volatility is the rate at which price of an asset fluctuates.
- The higher the volatility, the higher is fluctuation in price of an asset and vice versa.
- We have two types of volatility; one is Historic another is implied volatility.
- Historical volatility is based on previous movement.
- Implied volatility: IV is measure to use future volatility, it is used for pricing the options.
- It is the probability of future changes in the price of underlying.
- It is also expressed as % on an annualized basis.
- Rising in the volatility leads to an increase in the option price and vice versa.
- Vega of 10 tells us that the option premium will move 10 points, if there is 1% change in the IV.

EXAMPLE: NIFTY 23000CE @202, IV @19.6%, VEGA @7.65
Now IV moves to 21, so jump of 1.4%
New option price 1.4*7.64 = 10.7
10.7 + 202 = 212.7

5. RHO:

• RHO is the least important option Greeks, because interest rate changes are not frequent. • RHO measures the impact of changes in interest rates on option prices. It tells how much impact a 1% change interest rate has on the price of an option.

• Rise in interest rates tend to have a positive impact on call option, fall in interest rate tends to have positive impact. • Interest rate changes will not affect short term options.

EXAMPLE:

Assume that a call option is priced at 10 and has a rho of 0.25. If the risk-free rate rises 1 percent, say from 3 percent to 4 percent, the value of the call option would rise from 10 to 10.25.

VI. Conclusion

As the above, the study tells that most of the retail trader's making losses on F&O trading and the main reason is an average retailer's doing options buying. The new traders don't have knowledge about the options Greeks it directly effects on the option premium.

Some of are making loss by having lack of experience. Because some retailer's trading on near expiry days. in that time the underlying asset is going on our side but our premium is not going. Due to there is high time decay effect. And in another case they incurred loss in a falling in Indiavix . In the time of expecting big events in coming days, the Indiavix increases automatically (for example: Election result announcing date). After the event over We can see Drastic fall in Indiavix. In this time, we can see the market goes in our direction but our premium is falling down. Some of are making losses by taking trading calls from online. In this case they can't get a perfect entry and exit. Some of they think that Options trading is a very easy, we can make money easily. And entering in the market without any Trading Plans.

The main reason for making losses is lot of retailers doing intraday trading for the sake of gain profit in short-term. In intraday there is a high volatility and there is a high probability of making profits & losses. 9 out of 10 traders make losses in intraday trading and most retailers' have Lack of discipline in trading and don't have capacity to control their mind, emotions and they don't have a proper setup. And major retailers have a lake of knowledge in Position Sizing and Risk management. The Transaction Cost (including Brokerage charges, Exchange Charges, Stamp Duty, IPFT charges, SEBI Fees, STT, and GST) is also a reason. Average retailer's incurred loss due to over trading. Due to overtrading they have to ending up to pay more transaction cost. These are the major reason that lot of retailers are making losses in F&O trading.

(IPFT – Investor Protection Fund Trust, STT – Securities Transaction Tax, GST – Goods and Services Tax)

REFERENCES

1. **SEBI "Analysis of Profit and Loss of Individual Traders Dealing in Equity F&O Segment":**

2. **J.A. Carlson and C.L. Olser (1997) "Rational Speculators and Exchange Rate Volatility":** *Purdue CIBER Working Papers.* Paper 124.

3. **Mohammad G. Robbani and Rafiqul Bhuyan (2004) "Introduction of Futures and Options on a stock index and their impact on the trading volume and volatility: Empirical evidence from the DJIA components":** Associate Professor, Department of Economics & Finance, School of Business, Alabama A&M University, Normal, AL 35762, USA. Tel: _1 256 8515095; 27th September, 2004

4. **Prof. Shalini H S and Dr. R. Duraipandian (2014) "Analysis of Option Trading Strategies as an Effective Financial Engineering Tool":** The International Journal Of Engineering And Science (IJES) || Volume || 3 || Issue || 6 || Pages || 51-58 || 2014 || ISSN (e): 2319 – 1813 ISSN (p): 2319 – 1805

5. **Ashutosh Vashistha and Satish Kumar (2010) "Development of Financial Derivatives Market in India- A Case Study":** International Research Journal of Finance and Economics ISSN 1450-2887 Issue 37 (2010) http://www.eurojournals.com/finance.htm

6. **K Soniya, G. Mohanraj and Dr P. Karthikeyan (2013) "A Study on Financial Derivatives (Future & Options) with Special Reference to ICICI & SBI":** International Journal of Commerce & Business Studies Volume 1, Issue 2, October-December, 2013, pp. 11-21 © IASTER 2013, www.iaster.com, ISSN (O) 2347-2847

7. **Mr. Venkatesha (2022) "Derivatives Market in India – Futures and Options":** © 2022 IJCRT | Volume 10, Issue 6 June 2022 | ISSN: 2320-2882

8. **Dr. Premalata Shenbagaraman "Do Futures and Options trading stock market volatility?":** CFA, Department of Finance, Clemson University, Clemson, USA.

9. **Kedar nath Mukherjee and R.K. Mishra "Effect of Option Trading in cash Market: Empirical Evidence from Non-price Variables":** Corresponding author, ICSSR Doctoral Research Scholar, Institute of Public Enterprise (IPE), O U Campus, Hyderabad – 500 007; Senior Professor and Director, IPE, Hyderabad.

10. **Dr. Ramesh S. Kalamkar (2012) "A STUDY ON PROBLEMS & PROSPECTS OF OPTION TRADERS IN INDIA: WITH REFERENCE TO STOCK O[PTIONMS TRADED IN NATIONAL STOCK EXCHANGE":** ISSN PRINT 2319 1775 Online 2320 7876 Research *paper*© 2012 IJFANS. All Rights Reserved, Journal Volume 10,Iss 04, 2021 1140

11. **Atharva Joshi, Balaji Venkateswaran and Ritabarata Bhattacharyya "Option Selling strategy using Machine Learning":** Atharva Joshi Balaji Venkateswaran Ritabrata Bhattacharyya

12. **Ivan Guo and Gregoire Loeper(2020) "Designing All-Weather Overlays – A Study on Option-based Systematic Strategies":** Monash CQFIS Working Paper 2020 Centre for Quantitative Finance and Investment Strategies, School of Mathematics, Monash University Clayton Campus, VIC, 3800, Australia

13. **Ilknur Ucar, Ahmet Murat Ozbayoglu and Mustafa Ucar (2015) "Developing a Two Level Options Trading Strategy Based on Option Pair Optimization of Spread Strategies with Evolutionary Algorithms**": Conference Paper · May 2015
DOI: 10.1109/CEC.2015.7257199 https://www.researchgate.net/publication/308819491

14. **Charalampos Stasinakis and Georgios Sermpinis (2014) "FINANCIAL FORECASTING AND TRADING STRATEGIES: A SURVEY":** Chapter · March 2014 DOI: 10.4324/9780203084984 https://www.researchgate.net/publication/266327487

15. **Hemraj Kawadkar and Tushar Kodu (2022) "Options Trading Strategies – A Guide for New Investors":** SAMRIDDHI Volume 14, Special Issue 1, 2022 Print ISSN : 2229-7111 Online ISSN : 2454-5767

16. **Toopalli Sirisha and Dr. Kalibala Kalyan (2019) "A STUDY ON THE DERIVATIVES MARKET IN INDIA":** Article *in* SSRN Electronic Journal · January 2019 DOI: 10.2139/ssrn.3510065 https://www.researchgate.net/publication/338660819