

STOCK MARKET ANALYSIS

END TERM REPORT

by

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0.1 Foreword

The SoS was a great experience, learning about stock market in depth. I explored the technical, fundamental aspects of stocks, some other financial terms such as mutual funds futures and options . In this end term report I have incorporated topics which I found most interesting in the modules.

0.2 Introduction to Stock Market

0.2.1 Need to invest

In today's dynamic and ever-evolving economic landscape, the need to invest has never been more crucial. Investing is not just a pathway to growing one's wealth but a fundamental strategy for securing financial stability and achieving long-term financial goals.

There are various **asset classes** which people can choose to invest in:

- **Fixed income instruments:**

They include fixed deposits (FD), Bonds issued by the Government of India (also called G Sec bonds and T Bills), Bonds issued by Government related agencies such as GAIL, HUDCO, NHAI, etc & Bonds issued by corporate's (Tata, Bajaj, Reliance, Adani)

- **Equity:**

It consists of buying shares of publicly listed companies. The shares are traded on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE).

- **Real Estate:** Real Estate Investment involves transacting (buying and selling) commercial and non-commercial land. Typical examples include transacting in vacant plots, apartments, and commercial buildings. There are two income sources from real estate investments: Rental income and Capital appreciation of the investment amount.
- **Commodity – Bullion:**
Gold and silver are considered one of the most popular investment options.

Investment involves risk and return. While investing in fixed income seems less risky but returns are less when compared with investing in equities. Real estate on the other hand requires great capital to invest and is not quite liquid.

One must have a diversified portfolio of asset classes according to his risk and return appetite.

0.2.2 What is Stock Market: Structure and Functions

Defination:

The stock market is a marketplace where buyers and sellers engage in the trading of company shares, which represent ownership in public corporations. It serves as a platform for companies to raise capital by issuing stocks and for investors to buy and sell these stocks, aiming to generate returns on their investments. The stock market operates through a network of exchanges—such as the National Stock Exchange(NSE) and Bombay Stock Exchange(BSE)—where transactions are executed electronically or on trading floors. It plays a crucial role in the economy by facilitating the allocation of capital, providing liquidity, enabling price discovery, and reflecting the overall health of the economy through stock price movements.

Market participants:

The stock market attracts individuals and corporations from diverse backgrounds. Anyone who transacts in the stock market is called a market participant. The market participant can be classified into various categories –

- Domestic Retail Participants – These are general public transacting in markets
- NRI's and OCI – These are people of Indian origin but based outside India
- Domestic Institutions – These are corporate entities in India Domestic Asset Management Companies (AMC) – Mutual fund companies like SBI Mutual Fund, HDFC AMC, Edelweiss, ICICI Pru, etc.
- Foreign Institutional Investors – Non-Indian corporate entities. These could be foreign asset management companies, hedge funds, and other investors.

Regulatory Body - SEBI:

In India, the stock market regulator is called *The Securities and Exchange Board of India*, often referred to as **SEBI**. It aims to promote the development of stock exchanges, protect the interest of retail investors, and regulate market participants' and financial intermediaries' activities.

Market Intermediaries:

These are bodies which work to facilitate the transactions in market under the guidelines issued by **SEBI**.

- **Stock Broker:**

A stockbroker is a corporate entity registered as a trading member with the stock exchange and holds a stockbroking license. SEBI grants the license through due diligence, and the broker is expected to comply with the rules prescribed by SEBI.

It acts as an intermediary between investors and the stock market, facilitating the

buying and selling of stocks and other securities. They provide critical services such as executing trades on behalf of clients, offering investment advice, and managing investment portfolios. Stock brokers also provide access to research reports, market data, and analytical tools to help investors make informed decisions. By ensuring that trades are conducted efficiently and accurately, stock brokers play a vital role in maintaining market liquidity and helping investors achieve their financial goals.

- **Depository and Depository Participants:**

When a person buys a stock, a digital certificate is issued in his name as the owner of the stock. This certificate is stored in the person's DEMAT account. The body which provides DEMAT account services is called as **depository**. In India DMEAT account services are provided by The National Securities Depository Limited (NSDL) and Central Depository Services (India) Limited.

A **depository participant(DP)** acts as link between depository and the person. It helps to set a DEMAT account with the depository. For eg. Zerodha is a DP.

- **NSE clearing Limited and ICCL:**

NSE Clearing Limited and Indian Clearing Corporation (ICCL) are wholly owned subsidiaries of the National Stock Exchange and Bombay Stock Exchange, respectively.

The job of the clearing corporation is to ensure guaranteed settlement of your trades/transactions.

0.2.3 Trading a Stock

When a person wants to buy a stock he can login on his trading terminal and place a buy order. When a potential seller matches his demand a trade gets executed. The result of the trade is reflected on the DEMAT account of both the buyer and the seller.

The **holding period** is the period you intend to hold the stock. On the basis of holding period there are different types of traders:

- **Day Trader** – A day trader initiates and closes the position during the day. He does

not carry forward trading positions overnight.

- **Scalper** – A type of day trader. A scalper usually trades very large shares and holds the stock for less time to make a small but quick profit. For example – a scalper buys 10,000 shares of TCS at 2212 at 9:15 and sells it at 2212.1 at 9:16, ending up making 1000/- profit in this trade.
- **Swing Trader** – A swing trader holds on to the trade for a slightly longer; the duration can run anywhere between a few days to weeks.

0.2.4 Stock Market Index

A stock market index is a statistical measure that tracks the performance of a specific group of stocks representing a particular segment of the market. It provides a snapshot of market trends and overall economic health by reflecting the collective price movements of the selected stocks.

There are a few important indices in India. The S&P BSE Sensex represents the Bombay stock exchange, and the Nifty 50 represents the National Stock exchange. Apart from these two, there is the Nifty Bank Index (Bank Nifty), which is quite popular. Bank Nifty represents the banking sector as a whole.

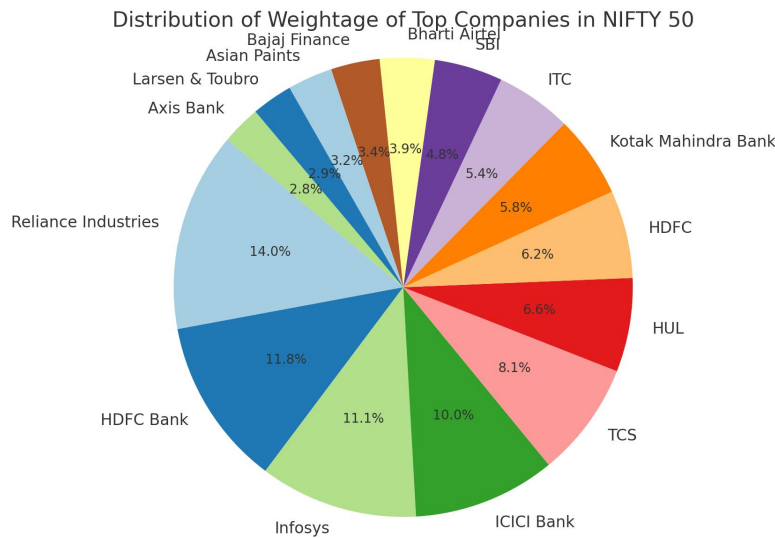
The indices are used for:

- **Information-** For eg. NIFTY was at 21884.50 points on 4th June 2024 and as of 21st June it is at 23501.10.
- **Benchmarking-** A yardstick to measure the performance is required for all the trading or investing activity people do.
- **Trading-** Trading on the index is probably one of the most popular uses of the index. Majority of the traders in the market trade the index.

- **Portfolio Hedging**-While the stocks are held from a long-term perspective, they could foresee a prolonged adverse movement in the market (ex-2008), potentially eroding the capital in the portfolio. Investors can use the index to hedge the portfolio in such a situation.

The index construction methodology can be understood by following example.

The NIFTY 50 index is constructed using a free-float market capitalization-weighted methodology, selecting 50 of the largest and most liquid stocks listed on the National Stock Exchange (NSE) of India. The selection criteria include market capitalization, trading volume, and industry representation, ensuring a diverse and comprehensive reflection of the Indian market. The index is reviewed and rebalanced semi-annually to maintain its relevance, adding or removing stocks based on the latest data. This methodology ensures the NIFTY 50 accurately represents the performance of the Indian stock market's leading companies.



0.2.5 Some Technical Terms

The following terms are commonly used in Indian stock market:

- **Bull Market (Bullish)** – If you expect the stock prices to go up, you are bullish on the stock price. From a broader perspective, if the stock market index is going up during a particular period, it is referred to as a bull market.
- **Bear Market (Bearish)** – If you expect the stock prices to go down, you are bearish on the stock price. From a broader perspective, if the stock market index goes down during a particular period, it is referred to as a bear market.
- **Long Position** – Long position or going long is a reference to the direction of your trade. For example, If you have bought the Nifty Index with an expectation that the index will trade higher, you have a long position on Nifty. You are considered bullish if you are long on a stock or an index.
- **Short Position** - Shorting a stock involves selling borrowed shares with the expectation of buying them back later at a lower price. This strategy profits from a decline in the stock's value, as the difference between the sale price and the lower repurchase price results in a gain.
- **Square Off** - Squaring off a trade refers to closing out an existing position in a financial instrument. It involves selling a previously bought asset or buying back a previously sold asset to offset the initial transaction, thereby locking in profits or cutting losses.
- **Intraday position** – This is a trading position you initiate with an expectation to square off the position within the same day. For example, all short positions in stocks are intraday positions.
- **OHLC** – OHLC in stock prices refers to open, high, low, and close. For eg. open 23,661.15 ;high 23,667.10; low 23,398.20; close 23501.10 of NIFTY 50 on 21st June .

- **Volume-** Volumes represent the total transactions (buy and sell put together) for a particular stock on a particular day .
- **Limit Order-** A limit order is an instruction to buy or sell a stock at a specific price or better. We can choose the price at which we want to trade.
- **Market Order-** A market order is an instruction to buy or sell a security immediately at the best available current price.
- **Stop Loss Order-** A stop-loss order is a risk management tool that automatically triggers a market order to sell a security if its price falls to a specified level, helping to limit potential losses.
- **Cash and Carry(CNC)-**Cash and carry refers to a trading strategy where an investor buys a stock in the cash (spot) market and simultaneously sells it in the futures market, aiming to profit from the price difference between the two markets over time.
- **MIS-**Margin Intraday Square-off, which is a trading segment in Indian stock markets where positions bought or sold during the day must be closed (squared off) before the market closes, typically to manage intraday risks and leverage.

0.3 Technical Analysis

Technical Analysis is a popular method to develop a point of view on markets. Besides, TA also helps in identifying entry and exit points. Technical Analysis visualizes the actions of market participants in the form of stock charts. Patterns are formed within the charts, and these patterns help a trader identify trading opportunities. TA works best when we keep a few core assumptions in perspective. TA is used best to identify short terms trades.

TA is based on a few core assumptions.

1. Markets discount everything

2. The how is more important than the why
3. Price moves in trends
4. History tends to repeat itself.

Types Of Charts

the Open (O), high (H), low (L), and close (C) serves as the best way to summarize the trading action for the given period. Conventional chart type cannot be used for technical analysis as we need to plot 4 data points simultaneously.

Below are some of the chart types:

1. **Line chart** - A line chart can be used to interpret trends, but no other information can be derived.



Figure 1: line chart

2. **Bar Chart** - Bar charts lack visual appeal, and one cannot identify patterns easily. For this reason, bar charts are not very popular.
3. **Japanese Candlestick** - There are two types of candlesticks – Bullish candle and Bearish candle. The structure of the candlestick, however, remains the same. When close greater than open = It is a Bullish candle. When close less than open = It is a Bearish candle.

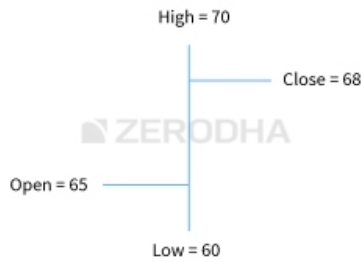


Figure 2: single bar

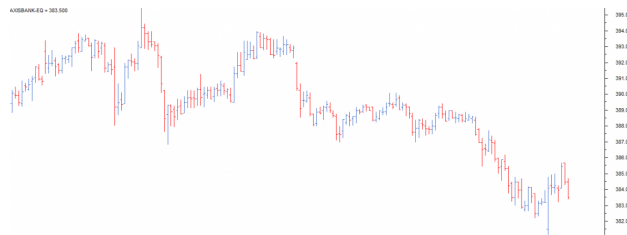


Figure 3: Bar Chart

Time Frame

A time frame is defined as the time duration during which one chooses to study a particular chart. Some of the popular time frames that technical analysts use are:

1. Monthly Charts
2. Weekly charts
3. Daily or End of day charts
4. Intraday charts – 30 Mins, 15 mins and 5 minutes

One can customize the time frame as per their requirement. For example, a high-frequency trader may want to use a 1-minute chart instead of any other time frame.

Candlestick Patterns

Under the single candlestick pattern, following are important...

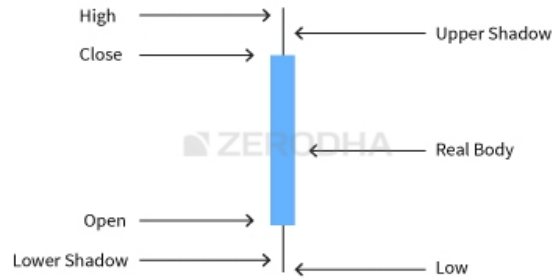


Figure 4: Single candle

1. Marubozu - a candlestick with no upper and lower shadow

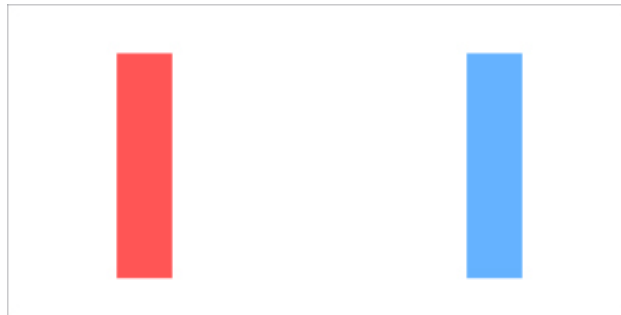


Figure 5: marabuzo

- (a) Bullish Marubozu- buy around closing price of bullish marabuzo while keeping it's low as stop loss.

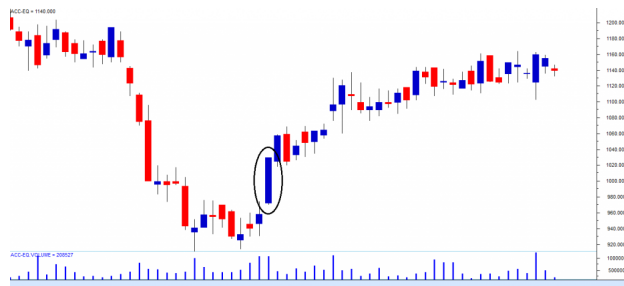


Figure 6: bullish marabuzo

- (b) Bearish Marubozu- sell around close of marabuzo while keeping high as stop loss.



Figure 7: Bearish marabuzo

2. Doji- conveys indecision in the market.

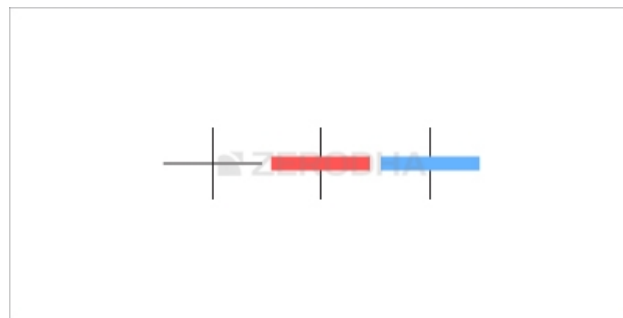


Figure 8: Doji

3. Spinning Tops- similar to doji it also convey indecision.

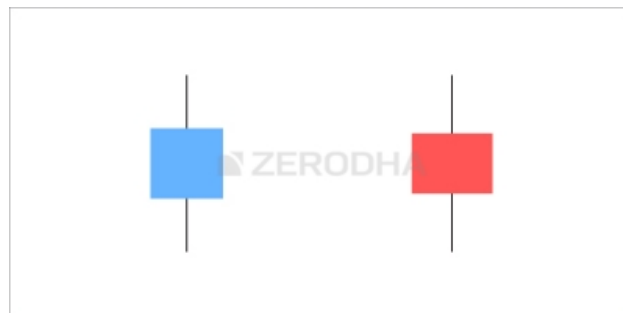


Figure 9: Spinning top

4. Paper umbrella-A paper umbrella has a long lower shadow and a small real body .
They signify a trend reversal pattern.

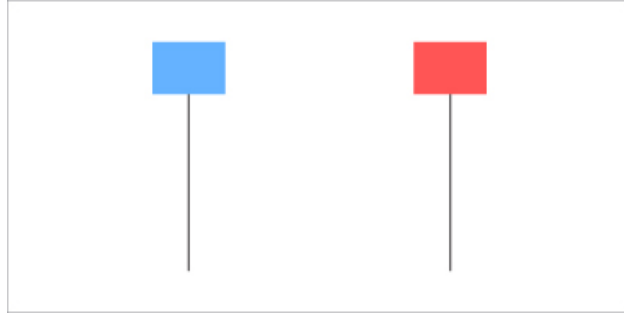


Figure 10: Paper Umbrella

- (a) Hammer-If the paper umbrella appears at the bottom end of a downward rally, it is called the 'Hammer'.



Figure 11: hammer

- (b) Hanging man-If the paper umbrella appears at the top end of an uptrend rally, it is called the 'Hanging Man'.



Figure 12: Hanging man

5. Shooting star- It looks like upside down umbrella. The shooting star is a bearish pattern which appears at the top end of the trend. One should look at shorting opportunities when a shooting star appears.

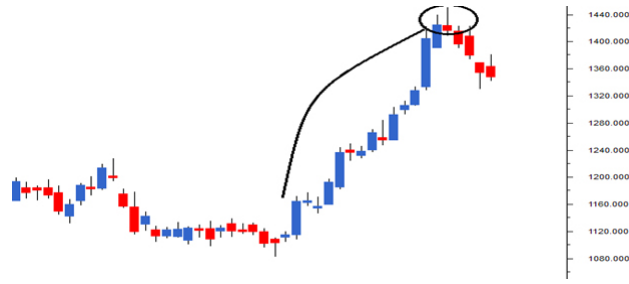


Figure 13: Shooting Star

Multiple candlestick patterns are a combination of multiple candles. Under the multiple candlestick patterns, following are covered:

1. Engulfing pattern-It consists of two candles: a smaller candle followed by a larger one that completely engulfs the body of the smaller candle.

- (a) Bullish Engulfing-In a bullish engulfing pattern, the larger candle is bullish, signaling a possible upward reversal after a downtrend.

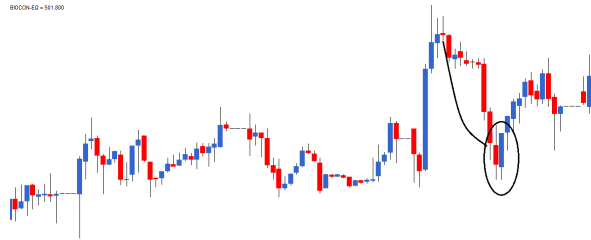


Figure 14: Bullish engulfing

- (b) Bearish Engulfing-in a bearish engulfing pattern, the larger candle is bearish, suggesting a potential downward reversal after an uptrend.

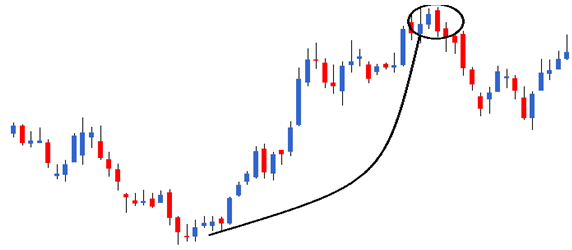


Figure 15: Bearish engulfing

2. Piercing Pattern-A piercing pattern is a bullish candlestick reversal pattern that appears after a downtrend. It consists of two candles: the first is a long bearish candle, followed by a long bullish candle that opens below the previous day's low but closes more than halfway up the body of the bearish candle. This pattern indicates a potential shift in market sentiment from bearish to bullish.

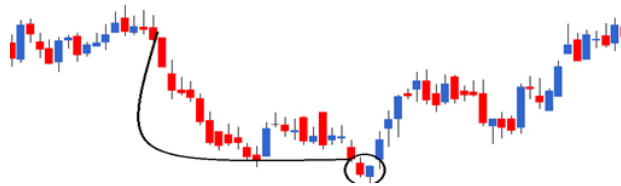


Figure 16: Piercing Pattern

3. Dark cloud cover-The dark cloud cover is a bearish candlestick reversal pattern that forms after an uptrend. It consists of two candles: the first is a long bullish candle, followed by a bearish candle that opens above the previous day's high but closes below the midpoint of the bullish candle. This pattern suggests a shift in market sentiment from bullish to bearish.

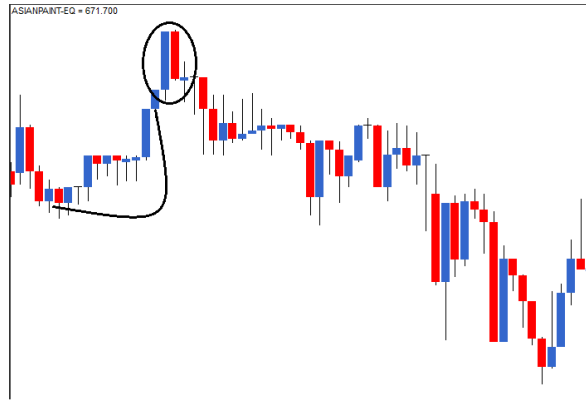


Figure 17: Dark cloud cover

4. Morning Star-A morning star is a bullish candlestick reversal pattern that typically emerges after a downtrend, indicating a potential shift to an upward trend. It consists of three candles: a long bearish candle, a small-bodied candle that gaps down, and a long bullish candle that opens above the small candle's body and closes well into the bearish candle's body. This pattern suggests diminishing selling pressure and increasing buyer interest, making it a significant signal for traders to consider entering long positions.

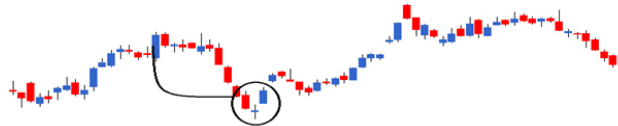


Figure 18: Morning star

5. Evening Star-An evening star is a bearish candlestick reversal pattern that signals a potential shift from an uptrend to a downtrend. It consists of three candles: a long bullish candle, a small-bodied candle that gaps up, and a long bearish candle that closes well into the bullish candle's body. This pattern indicates fading buying momentum and increasing selling pressure, making it a crucial signal for traders to consider entering short positions.

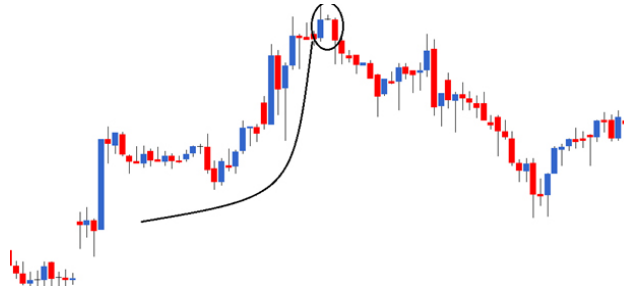


Figure 19: Evening Star

0.4 Futures Trading

0.4.1 Introduction

Futures market is an integral part of derivatives market. Derivatives are contract whose value is determined by the underlying asset for eg. stocks, commodities etc.

In a futures contract the buyer and the seller agree to transact the underlying commodity on a predetermined price at a specified time in future.

The concept of futures contract is derived from the forwards market. It is a more regulated and standardised of forwards contract.

The basic characteristics of a futures contract are:

- **They mimic their underlying** -as they are derivatives the price of a future contract fluctuates in line with their underlying.
- **They are highly regulated** - SEBI is the body which regulates the futures market and ensures transactions are settled.
- **They are time bound** - a future contract has an expiry date before which the transaction has to be made compulsorily.
- **They are tradable** - If one does not want to continue the term of the contract he can trade the contract as per his choice.
- **They are standardised and cash settled** - the quantity of the underlying being

traded is fixed for example 100 stocks. The transactions are settled with cash and not physically.

0.4.2 Some key terms

Following are some important terms which are used in futures contract:

- Lot size - As futures contracts are standardised the quantity of underlying being transacted is fixed. For ex. lot size 100 means 100 stocks of the underlying and 2 lots if that future means 200 stocks .
- Contract value - It is future price * lot size.
- Margin - It is some % of contract value which both the buyer and the seller has to pay before entering into the contract as a security.
- Expiry date - AS future contract are time limited they have an expiry date after which the contract ceases to exist.
- Spot price - it is the actual price of the underlying in the stock market. The future price is a bit different from this but it fluctuates in a similar manner as the spot price.

0.4.3 Trading a future contract

When someone develops a directional view about an asset price he can use that to benefit from a futures contract.

for instance if a person thinks an asset is supposed to experience a price rise he may sought to invest in the respective future contract as a buyer. At the expiry of the contract he may benefit from the price rise of the asset.

Below is a snapshot of a futures contract.

When we enter into a future contract a margin is blocked from our DEMAT account as a security deposit. This is released when the person exits the trade. One can square off the trade at anytime during the term of the future contract. After squaring off the profit or loss

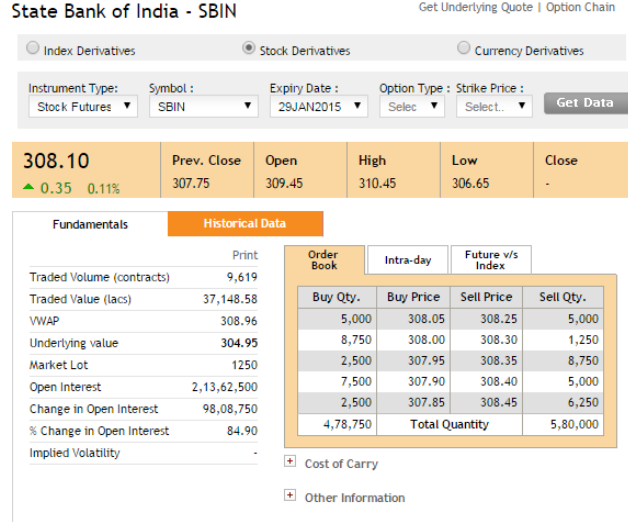


Figure 20: SBI futures contract

is credited or debited from the person's account on the same day.

0.4.4 Characteristics of futures contract

Leverage and Payoff

Leverage refers to the capacity of using the capital to enhance the investment returns which would not be possible with the existing capital of our own.

A future contract enables trades to trade large quantity of stocks for a small amount of investment i.e. the margin as compared to the actual price of the stocks in the spot market.

Leverage of a futures contract can be calculate by the following formula.

$$leverage = contract\ value / margin$$

Higher the leverage higher the risk. We prefer to invest in low leverage futures to reduce risk of loss.

The payoff structure of futures contract is linear. The buyers profit is the sellers loss and

vice versa.

Margin and Mark to Market(M2M)

Margin is some % of the contract value which is blocked from the trader's account. At the beginning of contract an **initial margin** is blocked which is calculated through SPAN and exposure margin.

- **SPAN margin** - It is the maintenance margin which the trader is supposed to have compulsorily in order to continue the trade.
- **Exposure margin** - It is additional 5-6% margin over the SPAN margin.

Market to Market or M2M is basically accounting adjustment on daily basis. This is done to prevent defaulting of the trader. when margin goes below the span margin broker asks the trader to push on more money to continue the trade. This is called as margin call.

0.4.5 Futures pricing formula

The futures go hand in hand with the spot prices.

The futures pricing formula states that

$$FuturesPrice = Spotprice * (1 + R_f(x/365)) - d$$

Here R_f is the risk free rate , x is the number of days the contracts is or and d is the dividend. This price is the fair price of the future trade the market price of the future may differ. This price can be used to check if the future is being priced expensive or cheap with respect to its market price.

0.4.6 Types of orders in futures contract

1. NRML - This nomenclature is used in zerodha kite. It is the basic buy order if you want to buy and hold the future. It does not have a stop loss feature to track the losses. It can be used for both intraday and multiple days trading.
2. MIS (margin intraday trading) - This product is for intraday trading.
3. Cover order(CO) - it is a modification of MIS as it has a stop loss feature which allows you to terminate the trade if the price goes against your expected view and beyond a certain limit of loss.
4. Bracket order(BO) - It has all features of bracket order and additionally it has trailing stop loss feature and target.
The trailing stop loss feature enables to dynamically change the stop price as the market price changes.

0.4.7 Hedging with futures

Hedging is a risk management strategy used to offset potential losses in an investment by taking an opposite position in a related asset. It typically involves the use of financial instruments such as options, futures, or derivatives to mitigate the impact of adverse price movements.

Hedging is used to counter the systematic risks which include

1. De-growth in GDP
2. Interest rate tightening
3. Inflation
4. Fiscal deficit
5. Geo political risk

To hedge a single stock position in spot we simply have to take a counter position in the futures market. But the extent of spot value and futures value have to be same.

Hedging a portfolio requires calculating the β of the portfolio.

Here β refers to the extent to which a particular stock moves with respect to the market.

The β of market is always +1.

β of a portfolio can be calculated by adding the weighted β s of respective stocks. The total hedging value of the portfolio is the product of the total portfolio investment and net β of the portfolio. Then we need to invest in futures whose value is equal to that hedging value.

0.5 Options Trading

0.5.1 Introduction

As the name suggests in this type of derivative contract the holder has "option" to buy or sell the underlying. This is used to reduce the extent of potential risks. We will understand different types of options products in further sections.

0.5.2 Basic terminologies in options contract

In a options contract there is a buyer and a seller. Here the seller is obliged to sell the underlying to the buyer if he wishes to buy at the end of the contract. The elements in this dynamic are as follows:

- strike price - It is the price at which the buyer and seller agree to enter into contract.
- Underlying price - It is similar to that of the futures contract. It is the price of the underlying asset.
- options premium - It is the security deposit which the buyer has to pay to the seller at the beginning of the contract.

- Expiry - Options have different expiry dates for example current month, mid month and far month.

0.5.3 The call option

In this contract the seller is obliged to sell the underlying to the buyer at the strike price upon the end of the contract.

Here the buyer has the choice to buy or not to buy the underlying.

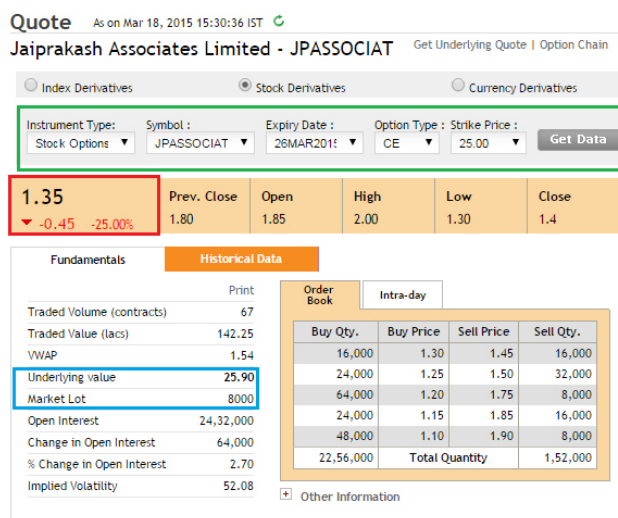


Figure 21: an option contract

From the above snapshot we can see that the call option premium is 1.35 per share and the lot size is 8000. So the premium is 10,800. The underlying value i.e. 25.90 is the strike price of the contract.

The situation to buy a call option happens when the buyer expects the underlying to experience a price rise and the seller expects the opposite. Here is one such situation.

We can choose the strike price at which we want to buy the options contract from the above list. The premium varies according to the strike price.



Figure 22: Enter Caption

Option Chain (Equity Derivatives)

Underlying Stock: BAJAJ-AUTO 2026-90

View Options Contracts for: Select Index OR Search for an underlying stock: Filter by: Expiry Date: 20MAR2015 Futures contracts

CALLS												PUTS											
Chart	OI	Chng in OI	Volume	IV	LTP	Net Chng	Bid Price	Ask Price	Strike Price	Bid Qty	Ask Qty	Net Chng	LTP	IV	Volume	Chng in OI	OI	Chart					
									1600.00														
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									4200.00														
									4300.00														
									4400.00														
									4500.00														
									4600.00														
									4700.00														
									4800.00														
									4900.00														
									5000.00														

Figure 23: List of various strike prices of option contract

Intrinsic Value of the option is defined as the non – negative value which the option buyer is entitled to if he were to exercise the call option.

$$IV = \text{spot price} - \text{strike price}$$

Now if the spot price fall below the strike price it is loss for the buyer and profit for the seller.

Now looking into the P&L of the buyer it can be calculated as follows.

$$P\&L = \text{Max}[0, (\text{Spot Price} - \text{Strike Price})] - \text{Premium Paid}$$

Hence there is a break even point where even if the spot price rises above the strike price the buyer remains in loss. This break even point is calculated as

$$BE = \text{Strike price} + \text{Premium paid}$$

when the spot price moves above this BE the buyer starts making profit.

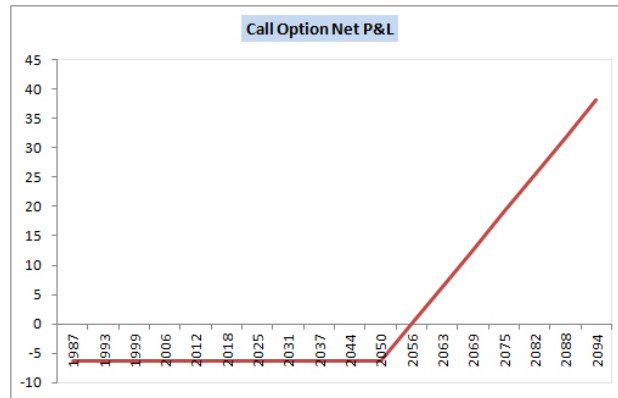


Figure 24: P&L of a buyer

Here we can see the potential loss of the buyer is predetermined which is the premium which he pays. Whereas the profit can be anything above zero.

The P&L for the seller or the writer of the contract will be the opposite of the above. His profit will be limited while the loss has no limit so the risk is high on the seller side if the stock price rises.

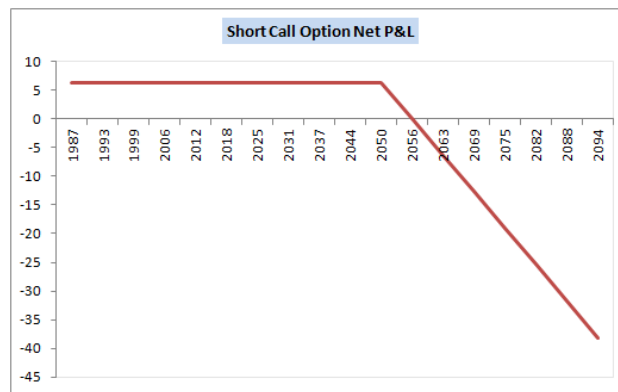


Figure 25: P&L of a seller

Now there are two types of options contract i.e European and American. In the American one the buyer can exercise his buying rights whenever he wants during the tenure of the contract which is not in the case of European contract. In India all options are European one.

As a final note call option is bought when one feel the market is going bullish.

0.5.4 The put option

A put option buyer buys the right to sell the underlying to the put option writer at a predetermined rate (Strike price). This means the put option seller, upon expiry will have to buy if the ‘put option buyer’ is selling him. At the time of the agreement the put option seller is selling a right to the put option buyer wherein the buyer can ‘sell’ the underlying to the ‘put option seller’ at the time of expiry.

Option Chain (Equity Derivatives)

Underlying Index: **BANKNIFTY 15416.60** As on Apr 08, 2015 5:10:36 IST

View Options Contracts for: **BANKNIFTY** Search for an underlying stock: **GO** Filter by: **Expiry Date: 30APR2015** Futures contracts

CALLS										PUTS													
Chart	OI	Chg In OI	Volume	IV	LTP	Net Chg	Bid Qty	Bid Price	Ask Price	Ask Qty	Strike Price	Bid Qty	Bid Price	Ask Price	Ask Qty	Net Chg	LTP	IV	Volume	Chg In OI	OI	Chart	
	100	-	-	-	2,499.30	-	25	2,275.80	2,341.05	25	16200.00	125	9.90	10.10	2,000	-1.35	10.10	27.47	10	125	12,400		
	-	-	-	-	-	-	375	2,134.55	2,275.20	375	16300.00	2,500	2.00	-	-	16.05	-	-	-	-	375		
	175	-	-	-	1,950.90	-	25	2,043.05	2,190.45	25	16400.00	25	7.05	16.80	2,000	-	-	-	-	-	-		
	350	-	-	-	2,100.00	-	25	1,943.55	2,049.50	25	16500.00	25	13.25	13.75	25	-1.80	13.30	25.41	2,509	-1,900	47,425		
	13,050	-	2	-	1,800.00	-43.85	25	1,774.15	1,827.75	25	16700.00	75	15.05	23.30	25	-4.90	15.10	23.71	14	-	16,500		
	975	-25	1	26.39	1,750.00	-102.10	25	1,658.35	1,735.85	25	16800.00	2,500	3.50	29.00	25	-2.25	24.00	24.74	26	-	8,725		
	45,400	1,475	101	-	1,510.00	-41.85	25	1,515.80	1,544.00	25	17000.00	1,000	33.25	34.30	25	-2.40	33.05	23.76	29,328	2,000	398,875		
	50	-	-	-	1,748.00	-	25	1,300.65	1,427.15	25	17200.00	25	40.05	91.00	100	4.50	91.40	23.48	136	50	13,775		
	175	-	-	-	1,200.00	-	375	1,208.45	1,304.15	375	17300.00	25	55.05	68.30	1,000	-2.85	56.00	23.15	428	-1,325	9,200		
	10,225	-250	54	23.91	1,100.00	20.40	25	1,084.90	1,189.40	25	17400.00	750	60.10	70.40	25	-1.45	69.25	23.19	64	-225	8,475		
	100	-	-	-	1,21.00	1,000.00	41.30	375	935.10	1,054.50	375	17500.00	1,750	84.25	101.00	25	-2.75	93.75	22.46	201	-1,550	8,450	
	1,000	-	-	-	836.90	-	25	900.00	958.00	375	17600.00	25	110.00	112.00	125	5.55	111.50	22.32	908	-2,900	15,300		
	1,000	-100	23	35.36	900.00	15.35	50	792.50	898.35	25	17700.00	150	125.00	133.00	25	4.25	129.00	21.45	822	-2,400	30,400		
	3,325	-	6	23.43	800.00	138.15	25	713.10	777.10	50	17800.00	50	147.05	153.50	300	3.55	150.10	21.48	420	1,250	18,575		
	67,125	-1,950	1,517	20.81	690.00	-55.15	250	677.95	694.00	50	18000.00	25	174.10	176.00	50	0.40	176.00	21.51	43,576	-19,600	353,800		
	7,150	-1,375	71	20.95	624.00	-28.05	200	615.00	640.40	50	18100.00	1,000	202.25	214.95	500	18.80	213.65	21.88	1,240	-1,850	16,575		
	13,125	-25	147	20.78	553.00	-51.05	50	540.00	599.45	25	18200.00	3,450	237.00	238.85	25	7.85	237.00	21.14	1,802	-475	34,175		
	17,925	-375	156	20.40	490.00	-44.05	25	478.75	500.35	25	18300.00	25	270.75	275.30	25	6.85	271.00	20.88	1,240	650	34,875		
	25,350	-275	572	20.24	430.90	-41.50	50	428.15	436.00	25	18400.00	25	312.35	316.00	250	9.45	315.10	20.89	1,978	2,500	28,900		
	224,950	-20,300	18,049	20.03	375.00	-34.70	25	375.90	382.00	75	18500.00	1,000	355.70	362.00	25	12.50	358.40	20.78	21,766	10,750	215,225		
	37,275	6,525	2,466	20.29	332.00	-38.15	25	330.00	335.00	100	18600.00	25	403.70	422.00	550	30.05	411.10	20.40	991	1,475	20,325		
	45,175	11,075	3,430	20.71	307.00	-38.60	300	304.00	304.00	100	18700.00	100	464.00	477.50	750	37.65	464.00	20.42	750	1,800	18,600		

Figure 26: Strike prices of a put option

One can buy a put option on one of the various strike prices. The **intrinsic value** of the put option is calculated as

$$IV(\text{Put Option}) = \text{Strike Price} - \text{Spot Price}$$

The formula for the P&L for the buyer is

$$P\&L = \max(0, \text{strike price} - \text{spot price}) - \text{premium paid}$$

The break even point is

$$BE = \text{Strike price} - \text{premium}$$

The buyer of put option starts making profit after the spot price falls below the BE. Below are the P&L dynamics of the buyer and sell of put option.

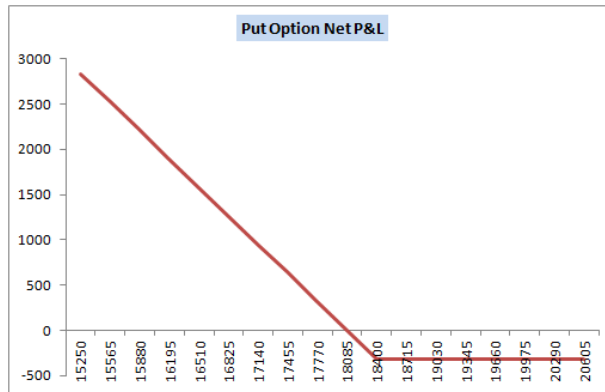


Figure 27: Buyer P&L

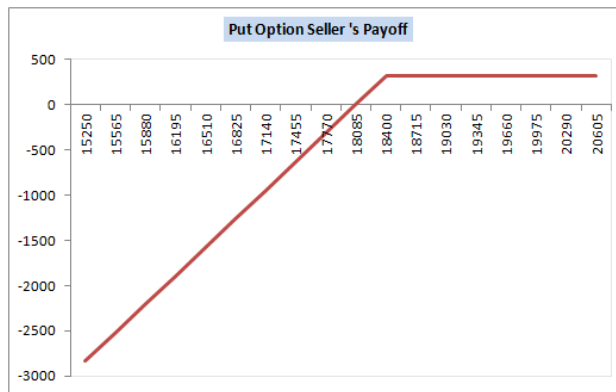


Figure 28: Seller P&L

We can see that this option is exactly the opposite of the call option.

0.5.5 Summarising call and put option

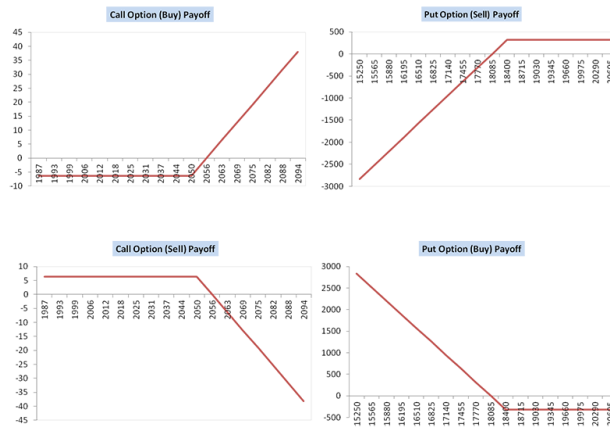


Figure 29: various possibilities

The above image describes the dynamics of four different situations one can have when entering into options trade.

Your Market View	Option Type	Position also called	Other Alternatives	Premium
Bullish	Call Option (Buy)	Long Call	Buy Futures or Buy Spot	Pay
Flat or Bullish	Put Option (Sell)	Short Put	Buy Futures or Buy Spot	Receive
Flat or Bearish	Call Option (Sell)	Short Call	Sell Futures	Receive
Bearish	Put Option (Buy)	Long Put	Sell Futures	Pay

Figure 30: Various holding positions

The above table describes what one can choose to do with options based on his market view.

Buyer PoV

Buying an option (call or put) makes sense only when we expect the market to move strongly in a certain direction. If fact, for the option buyer to be profitable, the market should move away from the selected strike price.

Seller PoV

markets are slightly favourable to option sellers. This is because, for the option sellers to be profitable the market has to be either flat or move in a certain direction (based on the

type of option). However for the option buyer to be profitable, the market has to move in a certain direction. Clearly there are two favorable market conditions for the option seller versus one favorable condition for the option buyer.