



## **Risk: Exchange Traded Derivatives**

**Note:** We in Finitor Financial Services Private Limited have tried to put a brief insight on the various risks associated with the exchange traded derivatives based on our understanding and knowledge. We in Finitor do not claim to be an expert on the subject. Please read the Disclaimer & Risk Factors at the end.

---

**FINITOR FINANCIAL SERVICES  
PRIVATE LIMITED**

Trading derivatives and leveraged products carry risks of losing beyond entire Capital and collaterals deposited as Margin. We in **Finitor Financial Services Private Limited** believe that it is our duty to make you aware of the high risk the derivatives products carry because of leverage/gearing the products offer.

The risk explained here certainly cannot disclose all the risks and other significant aspects of products such as futures and options rather it is an attempt to give you an insight to help you understand the nature of risks involved. It would be important to note that the behaviour of each instruments (futures and options) would vary with the change in underlying assets. Means Reliance Futures (equity derivatives) would behave differently from Gold Futures (commodity derivatives), this is because the price volatility of two different assets would not be identical. Even Reliance Futures having two different expiration will have different implications. Theoretical values of derivatives instruments could be surprisingly different in real world. You should not deal in these products unless you understand their nature and weigh them with the extent of your risk bearing capacity (exposure to risk). Synthetic derivative positions and derivative strategies, a straddle or strangle, may be as risky as a simple long or short position.

The derivative instruments are highly potent and volatile instruments. At the same time, these are excellent instruments for mitigating risks. The volatile nature of these instruments has encouraged two types of trades,

**1. Directional trades** – these positions are speculative in nature. Traders are willing to take risk for the high compensation these instruments offer on two counts volatility and leverage.

However, speculative gain was never the intended purpose for the creation of derivatives instruments. These instruments evolved over more than 100 years for business entities to be able to transfer risk to those who are willing to take risk, the speculators.

**2. Risk Mitigation/Hedge positions** – the objective of these positions is not to profit from the favourable price movement of the asset(s). These positions enable entities to shift existing risk that they are not willing to bear by taking counter (reverse) positions and thus they eliminate/reduce the risk of price volatility in the underlying assets (commodity/securities/FX) that the entities are currently exposed to and therefore be able to retain their business margin.

In globalised market and modern business dynamics where the very best technology is available across the world, price has become the major ground for retaining the competitive edge over rivals, derivatives have become an integral aspect of all business models for price risk management. Almost all major companies throughout the world use derivatives to hedge risks. Not only manufacturing companies but also financial institutions, service providers, shipping companies, commodity traders use

these instruments to hedge commodity price risk, security risk, exchange rate risk (FX) and interest rate risk.

A third type of positions are taken by traders in the market is,

**3. Arbitrage positions**– the objective of these trades is to earn risk free profit; these positions are indifferent to the market movements. Arbitrageurs play an important role in bridging the gap in price anomalies in the market. Proportionately, equal and opposite positions are taken on two (sometimes several) different contracts where underlying assets are same or having high correlation in terms of price variations.

## Derivatives

The value of a derivative contract derives from the price of an underlying item (usually spot price), could be an asset e.g. gold, stock, currency or an index, interest rates. Through a derivative contract specific financial risk can be traded. Derivative contracts traded on exchanges are standardised contracts where, assets (security/commodity/index), lot size (quantity), quality (in case of commodity or a specific series in case of securities), expiration (date of maturity), settlement type (cash/delivery) are predefined. Standardization improves the liquidity of derivatives because all traders hold similar contracts unlike OTC market. However, the statement does not mean that the exchange traded derivative contracts are more liquid. Only a fraction of the derivatives is traded on exchanges compare to OTC derivatives.

Product manuals and contract specifications carry the details of contracts. All traders should read the contract specifications carefully before initiating trades.

Futures and Options are the two-major exchange traded derivatives instruments in India with different expirations, it is important for derivatives traders to be well versed with respective contract specifications. All major exchanges publish contract specifications and other relevant contract details on their respective websites,

[www.nseindia.com](http://www.nseindia.com)

[www.bseindia.com](http://www.bseindia.com)

[www.mcxindia.com](http://www.mcxindia.com)

[www.ncdex.com](http://www.ncdex.com)

**1. Futures** - Future contracts are deferred delivery contracts (sometimes cash settled) where the buyer has an obligation to take delivery and seller has the obligation to give delivery of a specific quantum/quantity of an asset (commodity/security) at a predetermined price (usually set at the time of execution of trade) for delivery at a predefined future date (usually on expiration or within few days of expiration as defined in the contract specification). In cash settled contract the difference is settled in cash based on settlement price (arrived on the basis of predefined method by the respective exchanges) on the expiration date. Cash

settlement is a logical consequence of the use of financial derivatives to trade risk independent of ownership of an underlying item.

- 2. Options** – Option is a type of derivative instrument that gives the **buyer (seller)** the **right (obligation)** but not the **obligation (right)** to **buy (sell)** in case of call option or **sell (buy)** in case of put option, a specified quantity (lot size) of an asset at a set price (strike/exercise price) on or before a specific date (maturity/expiry date). Options contracts traded on exchanges are also called listed options. Exchange traded option contracts have predefined strike prices; strike prices are also known as exercise price. On expiration underlying assets of the options contracts are bought/sold or settled based on these strike/exercise prices. There are two categories of options.

	<b>Call option</b>	<b>Put option</b>
Buyers	right but not the obligation to buy	right but not the obligation to sell
Sellers	obligation but not the right to sell	obligation but not the right to buy

A call option gives the buyer right to buy specified quantity (lot size e.g. 500) of an asset (e.g. Reliance shares) at a predetermined price (strike/exercise price e.g. 1200) on a specified date (expiration date, e.g. last Thursday, May 25, 2017). The seller of the same call option has the obligation to sell the 500 shares of Reliance at Rs. 1200/share on May 25, 2017, if desired by the call buyer.

A put option gives the buyer right to sell specified quantity (lot size e.g. 1500) of an asset (e.g. shares of Tata Motors) at a predetermined price (strike/exercise price e.g. 450) on a specified date (expiration date, e.g. last Thursday, June 29, 2017). The seller of the put option has the obligation to buy the 1500 shares of Tata Motors at Rs. 450/share on June 29, 2017, if desired by the put buyer.

Trading in futures (directional/speculative positions) and selling options carry unlimited liability (risk of loss) beyond the capital one has in his/her futures account (margin account). The positions are subject to mark to market on daily basis that keep the traders informed about the profit and loss sustained against their positions, however there could be situations/events where the traders may lose their entire capital committed to futures account and beyond. NSE and BSE have implemented index-based market-wide circuit filters in equity derivative segment, operating price range (band) for currency and interest rate contracts, similarly commodity exchanges have implemented Daily Price Limit (explained separately) across various commodities but that may not prevent unlimited loss in a given situation.

### **Daily Price Limit**

Daily Price Limit is a commodity-based circuit filter that refers to a level upto which the price of a commodity (usually expressed in form of percentage variation) is allowed to rise and fall in a day with respect to the previous day close price. Circuit filter provides

maximum range within which a contract can be traded during the day. Such circuit filters are different for different commodities.

Buying an option is less risky. One still may lose the entire premium paid to buy an option but that is usually a small portion of the entire contract value. Reward could be very high in relation to risk if the position moves in favour of the traders.

## Value-at-Risk

One of the commonly used measure of Risk is Value-at-Risk (VaR), it provides a consolidated view that incorporates a contract's or a portfolio's exposure to risk sensitivities. VaR calculates an expected loss amount that may not exceed at a specified confidence interval over a given holding period (usually one or two days), assuming normal market conditions. Higher VaR of a portfolio indicates greater expected loss and exposure to market risks. VaR is a composite risk measure of volatility (historical/implied) as a result of various factors such as inflation, interest rate, exchange rate, credit, inflation, equity risks and other risks. VaR gives a consolidated view of different risks in a portfolio.

In addition, investors/traders should be aware of the following risks associated with derivatives trading,

- 1. Market Risk:** market risk refers to general risk in any investment. More appropriately, market risk refers to sensitivity of an asset or portfolio to overall market price movement. Derivatives instruments too are subject to market risk like any other financial and trading instruments. Investors take investment decisions based on assessment of certain news, forward looking reports, technical analysis, expert advice and assumptions, however factors such as monetary and economic policies, socio-political situations, fiscal and current account deficit, inflation, interest rates, volatility may lead to adverse market movement and therefore the investment decisions may go wrong that can incur huge losses. It is important for the investors/traders to follow discipline in their investment habits and invest/trade with strict stop losses.
- 2. Counter Party Risk:** Derivatives contracts do face counterparty risk though at a much-reduced level in exchange traded standardised contracts because of the presence of either in-house clearing & settlement department of the exchange (MCX: MCX Clearing & Settlement Department, NCDEX: In-house clearing) or central clearing house (BSE: ICCL, NSE: NSCCL). The exchange or the central clearing house acts as the counter party to each trade and also have trade and settlement guarantee fund to take care of any eventuality.
- 3. Liquidity Risk:** Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price or without incurring the high transaction (impact) cost. The spread between bid and ask

refers to transaction cost, wider the spread bigger is the impact cost. The liquidity differs across various derivative contracts. Index (Nifty) futures may have higher liquidity (lower impact cost) compare to individual stock options, at the money index options are generally more liquid than the deep out of/in the money option contracts, near month single stock/commodity futures usually have lower transaction costs than the far month contracts.

Liquidity in derivatives impose serious risk and have huge bearing on the overall gains and losses.

- 4. Margin Risk:** Margin is the collateral (usually cash, approved liquid securities, mutual fund units, gold etc) required to be deposited with the exchange/clearing house (counter party) to cover some or all credit risk the holder (buyer/seller) acquires by holding a derivative contract. It is also called good faith deposit towards the future credit obligations. There are various types of margin, initial margin, exposure margin, premium margin (applicable to buyer of the option) and assignment margin (applicable to sellers of the option on assignment) and mark-to-market.

It should be noted that the margin computation for securities and futures contracts is based on VaR but for a portfolio that comprises both futures and options contracts, a more complex margin computation is carried out through SPAN (Standard Portfolio Analysis of Risk) software. To the best of our knowledge commodity exchanges use VaR based margin (since only futures are traded on commodity exchanges) whereas NSE and BSE use SPAN based margin system for FnO segments. We would recommend investors and traders to check the respective exchanges for latest information regarding margining system. Margin is a function of variance (volatility).

The important thing to understand is that initial margin varies across different financial instruments and derivative contracts, margin may not remain same throughout the life of the derivative positions one is holding. Also, they are subject to mark to market several times on intraday and end of the day basis and therefore holders may find difficult to hold all or part of the positions in unfavourable market scenario.

A portfolio of several future and option contracts in the same underlying get the benefit of reduced margin if the risk of the portfolio decreases and vice versa. Similarly, calendar spread contracts also get the margin benefit. These margin benefits may be withdrawn near expiration of the contracts and are also subject to review periodically.

- 5. Collateral Risk:** Collateral posted as margin may be approved security that is subject to market risk and value of the collateral may drop in adverse market condition. There is also the risk that the haircuts applicable on the collateral may

change and therefore the margin becomes inadequate. In yet another scenario a collateral/security may get dropped from the approved list. Therefore, one may require to post additional cash or securities to make good of margin requirement.

**6. Maturity Date Risk:** Each exchange traded derivatives have fixed maturity and residual life after which they become worthless. One should be aware of the maturity of a derivative contract and one should select a contract having appropriate life span commensurate with his/her trading strategy.

**7. Delivery Risk:** In India, most of the financial derivatives are cash settled, however commodity derivatives across many commodities are deliverable. There are several risks associated with physical delivery of commodities, investors should be well aware of the contract specifications and delivery mechanism. Process of delivery for one commodity may be very different from another including corresponding cost. Following facts should be checked,

- i Tender period
- ii Tender period margin
- iii Delivery period
- iv Delivery period margin
- v Deliverable lot and units
- vi Deliverable quality/grade and related discounts and premium
- vii Delivery allocation date, pay-in/pay-out date of commodity and fund
- viii Various cost associated with delivery and logistics (warehouse, fumigation, loading/unloading, insurance, taxes, duties, cess and levies etc)
- ix Delivery centres, basic delivery centre and also discount associated with additional delivery centres

**8. Contango and Backwardation:** Contango and backwardation are important concepts in the derivative market, more so in the commodities market because of the cyclical nature and different demand and supply scenarios throughout the year across various commodities. Also, they may arise because of certain external factors like strike, weather condition, war, trade embargoes etc. Contango and backwardation define basis, and cost of carry helps in computing the theoretical value of future contracts. It is important for derivative traders to understand these terms and their implications.

- i **Contango:**Contango means a scenario where a future contract trades at a premium compare to the spot price of the same underlying. It is to be remembered that futures contracts on maturity (expiration) converges to spot price.

Futures > Spot

- ii **Backwardation:** Backwardation is the inverted market scenario where future price trades at a discount to spot.

Futures < Spot

Basis = Spot – Futures (if negative, is contango/normal, converse is backwardation)

Strength and weakness in basis determine the probable direction of future price movement.

Futures Price = Spot + Cost of Carry - Yield

In an ideal world of futures market, price of a future contract should be equal to Spot Price + Cost of Carry (cost of holding the asset for a future date) – Yield (any income earned while holding the asset). **We have mentioned Yield for the sake of simplicity, however would recommend one to understand the concept of Convenience Yield for better understanding of fundamentals involved in computing theoretical value of future price.** In commodities Cost of Carry comprises of Fixed Costs (warehouse cost/storage cost, insurance cost) and Variable Costs (deterioration & obsolescence cost, handling cost, maintenance cost and financial cost).

In financial derivatives, price of single stock future is the difference between Cost of Carry (cost of financing to hold the stock till maturity, interest cost) and Yield (dividend). Computing theoretical value of other financial futures would differ, e.g. future price of a bond.

Difference between basis and cost of carry would present arbitrage opportunity in the market.

## Disclaimer

The information provided in this article/write-up and content of this website is meant only for general reading purposes and the article/write-up and contents are based on individuals' knowledge and understanding of the derivatives, various other financial instruments, commodities, economy and market, neither the company nor the person claims to be an expert. The article/write-up and content of this website cannot be considered as guidelines, recommendations or as a professional guide for the readers. Before making any investments, the readers are advised to seek independent professional advice, verify the contents in order to arrive at an informed decision. Finitor Financial Services Private Limited, its directors, employees, affiliates, associates or representatives shall not be liable in any way for any direct, indirect, special, incidental, consequential, punitive or exemplary damages and any financial or other loss arising from the information contained in this material. The viewers / investors should at their discretion, seek latest / updated information from other sources.

Please also read the detailed [Disclaimer and Important Information](#) mentioned at the bottom of the home page.

## **Risk Factors**

Please note that investments/trading in financial instruments such as equity, debt, financial derivatives (equity, various indices, currency, fixed income including interest rates & credit derivatives) and commodity & commodity derivatives are subject to but not limited to market and other risks and there is no assurance or guarantee that the intended investment/trading objectives will be achieved. Past performance of a financial instrument and commodity & commodity derivatives as mentioned above may or may not be sustained in future and is no indication of future performance. Investment/trading return(s) and an investor's principal value will fluctuate so that, when redeemed, sold, squared off (reverse trade), an investor's principal may be worth more or less than their original cost including the possibility of losing the entire principal invested. In yet another situation there are possibilities of losses due to securities, commodities and derivatives contracts getting delisted on respective exchanges.

In addition, there is the risk that the price target will not be met due to such things as unforeseen changes in economic growth, industry growth, company specific (demand for the company's products, change in management, technology, operating and/or material costs, competitive pressure) fundamentals, balance of payment, revenue deficit, monetary & financial policy, taxation, liquidity (global and local) and credit demand, capacity utilisation, wage inflation, unemployment, commodity prices, exchange rate, housing prices, consumer confidence, political, geo-political, socio-political, market, spread and volume related risks, credit default risks etc.

**Summary: All investments/trading activities carry risks and they can be classified under two categories systematic and unsystematic risk. Investors/traders should have complete understanding of both the risks before they undertake investment and trading activities.**