



Understanding Derivatives

From The Editor's Desk

Over the last few years, futures and options have become a buzzword within the broader securities market. For the inexperienced, these are instruments of what is known as derivative trading. Though not a new concept, derivatives have evolved over centuries but have come to be known only in the last century. India too has become a major player in the last two decades, and the global ranking of Indian exchanges in derivative trade is a testimonial to that fact.

However, there is still an equal amount of mystery, apprehension and uncertainty about derivatives among retail investors.

In this issue of The Financial Kaleidoscope, we will be covering the basics of derivatives and the risk factors involved while investing in it. As with any financial or investment instrument, it is imperative to have a good understanding of the space before diving into it. As always, we look forward to your feedback and suggestions to make this newsletter better. Please feel free to write to us at info@nsdl.co.in.

Regards,

Team NSDL

What are Derivatives?

Derivatives are financial instruments which derive their value from the value of other assets, known as 'underlying' asset. Derivatives can be based on a wide array of asset classes which include:

- ✓ Financial assets such as equities, debts, bonds, currencies as well as indices,
- ✓ Agricultural produce such as grains, coffee, pulses and cotton,
- ✓ Metals such as gold, silver, copper and aluminum,
- ✓ Energy sources such as crude oil, natural gas, electricity, coal etc.

At its core, 'derivatives' is a risk management tool for anyone having an underlying risk exposure based on the future price of a financial asset or a commodity. It works on the principle of transferring the price risk from one party to another who is willing to take that risk in anticipation of financial benefits in the future.

From an investor's perspective, a derivative is an agreement to trade a certain product at a certain price on a future date based on a combination of speculation and/or their understanding of how that product is likely to be priced in the future. Thus a derivative helps an investor to make money or avoid possible losses by speculating on the future value of an underlying asset.

Significance of derivatives

Price discovery and price risk management

These two are perhaps the most crucial functions that the derivative market performs, especially from a commodities perspective. Driven by actual valuations, demand, and expectations from the market help improve the accuracy of price discovery in the market for any commodity. This, in turn enables participants with a lower appetite of risk to transfer it to those who are willing to take risks in anticipation of a good return at a future date.

Better Regulation

Derivative contracts have been traded for centuries before the emergence of a formal derivatives market. However, trade in an unorganized sector results in conflicts and defaults. With regulated intermediaries in place, the scope for off-market trades is negligible thus allowing the regulator to monitor them more efficiently. This not only benefits all traders and stakeholders but also helps bring stability to the overall financial system.

A brief history of derivatives

As a concept, the history of derivatives can be traced back to the ancient Greek civilisation where it was used by olive farmers. This concept started developing in other parts of the world as well with farmers using it to protect themselves against environmental or other future uncertainties, thus giving birth to commodity contracts.

Futures emerged in Osaka, Japan in the mid-seventeenth century. Rice farmers there started entering into standardised contracts to sell their produce at a predetermined price to protect themselves against weak market prices during the harvest season.

Later, in 1848 Chicago Board of Trade (CBOT) started facilitating trade in forward contracts for commodities. This was institutionalised in 1865 when CBOT became the first exchange where futures contracts could be traded, much like it is done today. In addition to dealing in commodities, several exchanges came to the fore which dealt in financial derivatives as well. This included treasury bonds, bills and currencies.

An overview of the Indian Derivatives market

India's journey in the derivatives market began in the mid-nineteenth century with the establishment of Cotton Trade Association in 1875, however, the move towards setting up a formal structure for trading in derivatives began in 1996. The Securities Contract Regulation Act was amended in 1999 to include 'derivatives' in the definition of 'securities'.

NSE became the first stock exchange to facilitate derivative trade in India with the introduction of Nifty futures in June 2000. This was followed with the introduction of Nifty options, Stock options and Stock futures in a phased manner by NSE and BSE. Later the trading was made possible in commodities by specific commodity exchanges like the Multi Commodity Exchange of India (MCX) and National Commodity and Derivatives Exchange (NCDEX).

Today, India has emerged as a strong player in the global securities market with BSE and NSE featuring among the top 10 exchanges in terms of market capitalisation. India's growth story continues in other derivative products as well with the two primary exchanges accounting for almost 96% of all currency derivatives traded in the Asia-Pacific region. In the commodities segment, MCX is in the top-ten list of commodity exchanges worldwide.

Types of derivative products

Forwards

Forward contracts are an agreement between two parties to buy or sell a commodity or an asset on a future date for a price mutually agreed upon while entering the contract. Both parties are obliged to honour the contract irrespective of the price of the underlying asset at the time of delivery. Forward contracts are usually signed between two parties without an intermediary (or an exchange) and are also known as Over-the-counter (OTC) contracts.

Futures

A futures contract is similar to a forward contract except that it is done through a regulated exchange instead of two private parties. Such contracts can be traded openly on an exchange much like equities and other market-related products. Additionally, futures contracts are standardised including contract sizes and settlement dates which make it a relatively secure avenue for investors.

Options

Options are a contract that gives the right (without any obligation) to buy or sell the underlying asset or product at the stated date and price (known as 'strike price'). Under options, a buyer pays a premium to buy the right, while a seller receives the premium to sell the underlying asset at a stated price. Options can be classified as follows:

- ✓ **Call option:** It gives buyer the right but not the obligation to buy an agreed quantity of the underlying asset at a given price and on a future date. Since the buyer of the call option has the right (but no obligation) to buy the underlying asset, he or she will buy the underlying asset only if the current market price of the underlying asset is more than the strike price on or before the expiry of the contract.
- ✓ **Put option:** It gives buyer the right to sell a given quantity of the underlying asset at a given price on or before a given future date. Since the buyer of a put option has the right (but not the obligation) to sell the underlying asset, he or she will only do so if the market price of the underlying asset is less than the agreed price on or before the expiration of the contract.

Swaps

A swap is an agreement made between two parties to exchange cash flows at a future date as per pre-agreed formula. Consider swaps as a series of forward contracts that help market participants manage the risks associated with market volatility. This is a complex and large scale instrument generally conducted by large financial institutions and asset management companies. There are two common varieties of swaps:

- ✓ **Interest rate swaps:** These entail swapping the interest related cash flows between the two parties in the same currency.
- ✓ **Currency swaps:** These entail swapping both principal and interest between the two parties trading in different currencies.

Hedging mechanism

Hedging is the process of buying and selling futures contracts to offset the risks that result from price fluctuations in the market for those underlying assets. It helps in reducing the risk by taking counter-positions in the futures market for the assets under trade. Since the cash and future prices of any commodity or product are correlated and move in tandem, participants in the cash market can cover their price risk by taking an opposite position in the futures market.

Example: Mr. A is an investor who has purchased the shares of ABC Limited but is now is concerned that price may fall much below the price he has paid for. He may cover his position by purchasing a put option for ABC Limited (i.e. right to sell, but not the obligation to sell). Alternatively, he may buy a future contract for ABC Limited shares. In case the price of the shares falls, he will lose money in the shares but will make up for this loss by the gain made in ABC Limited futures.

Risks associated with derivative trading

As with any investment products, derivatives also come with their share of risks, some of these include:

- ✓ **Market risk:** An investor has to carry the risk of loss due to the change in price of an underlying asset in the market.
- ✓ **Liquidity risk:** The demand for a product shrinks in difficult market conditions and so does liquidity. Unloading a stock can be quite challenging in such conditions thus rendering the asset illiquid.
- ✓ **Legal risk:** A change in law or regulatory framework could disallow some activities thus impacting a trader.
- ✓ **Credit risk:** This is a risk on account of a default by the counterparty due to any reason. However, the possibility of this is near zero because in such situations it is the responsibility of the exchange to enforce all contracts.
- ✓ **Operational risk:** This risk arises out of operational issues such as fraud, documentation errors or technological failures thus preventing investors from conducting routine business.

Investing in Derivatives

The operational aspect of trading in derivatives is very similar to equities. However, as discussed earlier, derivatives are a lot more complex and require thorough understanding of the concepts and risks. Let's look at some of the procedural aspects of derivative trading.

Who can trade in derivatives in India?

Derivative trading is open to all individual investors having a minimum net worth of ₹ 2,00,000.

How to trade in derivatives?

You need to have following to enable you to trade in derivatives –

1. A trading (or broking) account opened with any registered stock broker
2. A savings bank account
3. A demat account (if collaterals are to be kept)

You need to select the exchange and the derivative segment in the trading account opening form. Standard KYC documents including PAN would be required for opening of above accounts. If you already have a demat and a bank account, the same can be used for derivative trading.

Taxation-related aspects of derivatives

Prior to F.Y. 2005–06, all derivative trades were considered as speculative transactions for the purpose of Income Tax Act. A loss on a derivative trade could only be set off against other speculative income which resulted in the payment of higher taxes for such individuals.

In order to make it more investor friendly, an amendment was made in the Finance Act to exclude derivative transactions carried out in a 'recognised stock exchange'. Now, since it is classified as non-speculative, losses on such transactions can be adjusted against other sources of income (except income from salary). Such losses can also be carried forward for a period of eight successive years. It is important to note that this provision is not applicable for transactions carried out on unrecognised exchanges or for non-listed instruments.

Another tax benefit from derivative trading is in the form of deduction available for Securities Transaction Tax (STT) paid on such transactions.

Do's and Don'ts for investors

Do's

- ✓ Understand the risks and market dynamics involved in derivative trading. Take qualified professional's help if you need.
- ✓ Trade only through SEBI registered intermediaries.
- ✓ Before commencing trade, understand all charges including brokerage, commissions, and other fees; ensure it is as per the guidelines issued by relevant regulators.
- ✓ Get a Unique Client Code (UCC) and ensure all trades are conducted under it.
- ✓ After conducting each trade, verify it on the relevant exchange's website to ensure the accuracy of details.
- ✓ Always get a duly signed contract note for every trade and verify all details on it.

- ✓ Insist on receiving monthly statements and bills for every settlement.
- ✓ Report any discrepancies in the statement to your broker immediately and report it to the exchange in case of unsatisfactory response.
- ✓ Make and receive all payments only through cheque or bank transfer.

Don'ts

- ✓ Do not deal with any unregistered intermediary.
- ✓ Stay away from off-market transactions no matter how lucrative they may seem; since these are not legal, there is no protection or legal recourse in case of trouble.
- ✓ Do not enter into assured returns arrangement with any intermediary.
- ✓ Do not fall for rumours, tips or promise of assured returns.
- ✓ Do not accept unsigned/duplicate contract note/confirmation memo.
- ✓ Do not share your bank/internet trading account's password, OTP or PIN with anyone.
- ✓ Do not pay brokerage or charges in excess of what is prescribed by the Exchange and what has been agreed mutually.
- ✓ Do not make any payment in the name of any unauthorized person or firm.

Blog

Financial Derivatives: Not that bad

By Prof. (Mr.) Leben Johnson, GITAM
(Deemed to be University), Visakhapatnam

There is a sense of fear that emerges when the word derivative is used, not sure if it takes you back to the college days' fear of Derivatives and Integrals in calculus. However, financial derivatives, on the contrary, are simple in math, but weighs on the logic of risk aversion and maximization of profits, if executed knowledgeably.

Let me clear the myth by taking you through a simple practical dilemma that most of us have. For ease, let me call it the "Mango Farmer's Dilemma". A farmer typically nurtures the mango grove and ensures that the trees have adequate water, sunlight, fertilizer and pest control, enabling the flowers that bloom yields succulent ripe mangoes in summer. However, the dilemma is: if all farmers have a good-crop, there will be an abundance of mangoes, which needless to say will impact prices. The biggest fear of a farmer is falling prices, while he is happy with the price increase. So the question on most farmers' minds is how can I protect from falling prices? Can we agree on a price now at which I might deliver the mangoes when they are reaped in summer if I wish so? The answer is, absolutely you can, through products called financial derivatives, such as Forwards, Futures or Options.

Forwards are customized Over-the-counter (OTC) agreement between two parties to buy or sell a commodity at a pre-determined price, which has higher counterparty default risk. While Futures are standardized contracts that trade on the exchange and mitigates counterparty risk, Forwards are obligations that need to be fulfilled. Futures still have this obligation but one can execute an off-setting trade to off-set the earlier position taken. Options, on the other hand, are similar to insurance policies, in which a premium is paid to reimburse any uneventful accident expenditure within a given period, to a maximum of the policy face value amount. In case there is no accident claim within the period, the policy premium paid is forfeited. When compared to Forwards and Futures, Options are less risky. So going back to our farmer, to ensure that they have peaceful sleep every night, they can buy a "long put option" that gives him/her the right (but not an obligation) to sell the mangoes at a pre-determined price (strike price) on or before a particular date (the maturity date). For buying this put option, he needs to pay a price, known as 'Option Premium'. In case the market price of mangoes goes above the strike price, the farmer will not exercise the right to sell the mangoes and will let the option expire. By doing so he will lose the option premium only (policy premium) already paid by him at the time buying the option. In this case, the farmer would rather sell the mangoes in the market where the spot price is greater than the agreed strike price. For whatever reason, if the spot price is below the strike price, he will exercise the option contract by delivering the number of mangoes and get paid the pre-determined strike price. By this option, the farmer is protected from the downside risk of price falling. Similarly one can protect themselves from the upside risk of price increases by buying a "long call option". Take an example of a jeweller needing gold to make ornaments and fears price increase



of raw gold. By paying some option premium, he can buy a right to buy (not an obligation to buy) gold at a pre-determined price on or before a particular date.

Stock exchanges are facilitating by providing such financial derivative products that can be easily executed through their online trading platform.

Note: Views expressed are that of the author and not necessarily of the Institution.

Glossary

- ✓ **Spot price:** Also known as cash price, it is the price that is quoted for immediate delivery of an underlying asset.
- ✓ **Forward price:** Also known as future price, it is the predetermined price of an underlying asset that is agreed upon at the date of the contract for delivery on a future date.
- ✓ **Strike price:** This is the price at which the buyer of an option can buy (in case of a call option) or sell (in case of a put option) a stock on or before the expiry date of an option contract.
- ✓ **Expiration date:** The date on which a derivative contract is settled.
- ✓ **European options:** Option contracts that can be exercised by the buyer only on the expiration date.
- ✓ **American options:** Option contracts that can be exercised by the buyer on any day on or before the expiry date.
- ✓ **Contract value:** It is the notional value of a transaction, calculated by multiplying the contract size with the future price of the stock.
- ✓ **Margins:** It is the percentage of the contract value levied by an exchange in lieu of the full amount. It is levied on both the buyer and the seller of a derivative contract to avoid default.
- ✓ **In-the-money option:** An option is said to be in-the-money at a given time, if on exercising the option at that time, it would produce a cash inflow for the buyer.
- ✓ **Out-of-the-money option:** This is the opposite of in-the-money option when the strike price of the underlying asset is greater than its spot price. So exercising the option (call or put) will not be an economic decision in such a case.
- ✓ **At-the-money option:** This is a stage when the spot price of the underlying asset is equal to the strike price; a movement in either direction leads it to becoming in-the-money or out-of-the-money.

News

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'Jan Nivesh Abhiyaan' for financial awareness

To spread financial awareness amongst masses in a unique way, NSDL is participating in 'Jan Nivesh Abhiyaan' organized by CFA Society India during November 15 – 29, 2019. During this period, groups of enthusiastic cyclists will cycle from Mumbai to Indore and Delhi to Indore via Ahmedabad. NSDL will be organizing various programs for investors enroute during this period to make everyone a 'Prudent Investor'. We invite you to be a part of the event. Program schedule would be displayed at <https://nsdl.co.in/nsdlnews/jan-nivesh-abhiyaan.php>

World Investor Week (WIW) held from September 30 - October 6, 2019

NSDL celebrated 'World Investor Week' (WIW) from September 30 - October 6, 2019 under the aegis of IOSCO and SEBI. As part of the celebration, NSDL conducted 15 Investor awareness programmes in association with SEBI, NSE and Depository Participants to educate investors about the financial markets. These programs were attended by around 1,000 investors from all over the country.

Training Programmes for Participants

CPE Training Programme for Participants

NSDL, a NISM accredited Continuing Professional Education (CPE) Provider offers CPE training programmes in different modules for eligible associated persons. In September 2019, NSDL conducted five such training programmes at Ahmedabad, Kolkata, Mumbai and New Delhi.

Investor Education initiatives undertaken by NSDL

NSDL conducts Investor Awareness Programmes (IAPs) throughout the country to ensure investors are aware of different aspects of investing. Till date, NSDL has conducted over 3,700 programmes which have been attended by more than 3.61 Lakh investors. Feedback received from investors during these IAPs is extremely encouraging. The schedule of these programs is published online at <https://nsdl.co.in/Investor-Awareness-Programmes.php>. We shall be happy to conduct IAPs for your organization / institute / society. Help us in driving the investor education initiative further by writing to us at info@nsdl.co.in about such programmes to be conducted.

More the education, more the prudence

Forthcoming Training Programmes for Participants

Sr. No.	Date of Training	Location of Training	Type of Training Programme
1	November 22, 2019	Mumbai	CPE – Depository Operations Module
2	November 23, 2019	Ahmedabad and Chennai	CPE – Depository Operations Module
3	November 23, 2019	Kolkata	CPE – Registrar & Transfer Agents Module
4	November 30, 2019	New Delhi	CPE – Depository Operations Module
5	November 30, 2019	Kolkata	CPE – Depository Operations Module
6	December 7, 2019	Ahmedabad	CPE – Depository Operations Module
7	December 20, 2019	Mumbai	CPE – Depository Operations Module
8	December 21, 2019	Ahmedabad	CPE – Depository Operations Module
9	December 28, 2019	Kolkata and New Delhi	CPE – Depository Operations Module

* Schedule is subject to change.

Forthcoming Investor Awareness Programmes

Sr. No.	Date	Venue	City	State / UT	Timing
1	23-Nov-19	Hotel Quality Inn Sabari, Thirumalai Pillai Road, T. Nagar, Chennai, Tamil Nadu, 600017	Chennai	Tamil Nadu	10.30 a.m. - 02.00 p.m.
2	23-Nov-19	Hotel Charan Plaza, Halwasiya House, Mahatma Gandhi Marg, Gala Market, Hazratganj, Lucknow - 226001, Uttar Pradesh	Lucknow	Uttar Pradesh	01.00 p.m. - 04.00 p.m.
3	23-Nov-19	Hotel RK Grand Restaurant and Function Halls, Guntur - 522002, Andhra Pradesh	Guntur	Andhra Pradesh	10.30 a.m. - 01.30 p.m.
4	28-Nov-19	Hotel Fortune Palace, Digjam Circle, Airport Road, Jamnagar - 361005, Gujarat	Jamnagar	Gujarat	06.30 p.m. - 08.30 p.m.
5	29-Nov-19	Bellevue Sarovar Portico, Railway Station Road, Mullawada, Junagadh - 362001, Gujarat	Junagadh	Gujarat	06.30 p.m. - 08.30 p.m.
6	30-Nov-19	Hotel Thakar Thal, Raj Kamal Chowk, Parekh Chamber, Amreli - 365601, Gujarat	Amreli	Gujarat	06.30 p.m. - 08.30 p.m.

* Schedule is subject to change. Please visit <https://nsdl.co.in/Investor-Awareness-Programmes.php> for updated schedule.

Question for Knowledge Wins contest !

What is the minimum net worth required for a retail investor to trade in derivatives?

Email your reply mentioning your name, address and contact no. with the subject 'Knowledge Wins Contest - September 2019' to info@nsdl.co.in

KNOWLEDGE WINS Contest

Terms and Conditions

- NSDL shall be solely responsible for the execution and administration of this Contest.
- This Contest is only open to Indian Citizens. (NSDL employees are not allowed to participate in this contest).
- All personal details submitted must be accurate and complete and are subject to proof upon request by NSDL.
- NSDL reserves the right, at any time, to verify the validity of entries and entrants and to disqualify any entry not submitted in accordance with these Terms or which tampers with the entry process.
- NSDL reserves the right to discontinue the contest at any given point of time without prior intimation.
- All prize drawings will be made on a strictly random basis and the decision made by NSDL will be final.

Lucky 25
Winners will
Win Free
Goodies



Your suggestions for newsletter are valuable to us.

Send in your suggestions mentioning your name, address and contact number

with the subject

"Suggestions for the newsletter"

to info@nsdl.co.in

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- To know more about NSDL Certification Program, you can email us at trainingdept@nsdl.co.in
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