

Derivatives Market: A Strategic Financial Tool in Locking Future Prices

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Abstract

Financial globalization also paved way with numerous innovative financial services, products, instruments, investing wisely, minimizing risk on one hand and maximizing returns on other hand. India being a developed economy in recent years, opened market for financial investments and allowed prices to vary with the prevailing market conditions. The corporate sector has grown manifolds in the 21st century, with the rise in banking, industry, advancement of technology, which made financial market prices fluctuating without any proper estimation for future. This made corporate world to depend on the financial instruments which can predict the future price of an instrument, so as to avoid the future risk. Answer to all the above issues of corporate sector, is given by “Derivatives” which derive some future value of its “underlying asset”. These derivatives provide an effective estimation of future price, which can solve the problem of risk and uncertainty due to fluctuation of interest rates, exchange rates, stock market prices and any other underlying assets.

Keywords: Financial Globalization, Financial Services, Technology and Derivatives.

Introduction

The financial system of India has been making significant changes since 1991, with the liberalisation, privatisation and globalisation phenomenon. The scope of Indian Financial Markets also moved from a traditional approach to digitalisation. These transformations brought tremendous changes in financial products, financial services in our monetary markets. Financial globalisation also paved the way with numerous innovative financial services, products, instruments, investing wisely, minimising risk on the one hand and maximising returns on the other hand. India being a developed economy in recent years, opened a market for financial investments and allowed prices to vary with the prevailing market conditions.

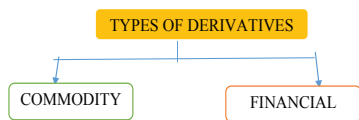
The corporate sector has grown manifolds in the 21st century, with the rise in banking, industry, advancement of technology, which made financial market prices fluctuate without any proper estimation for the future. This made the corporate world depend on financial instruments which can predict the future price of an instrument to avoid future risk.

Answer to all the above issues of the corporate sector is given by “Derivatives”, which derive some future value of its “underlying asset”. These derivatives provide an effective estimation of future prices, which can solve the problem of risk and uncertainty due to fluctuation of interest rates, exchange rates, stock market prices and any other underlying assets.

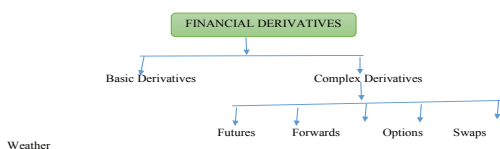
Concept of Derivatives

According to Security Contract Regulation Act, 1956, Sec 2 (a) (c), derivatives comprises,

“A contract which derives its value from the price or index of the price of the underlying assets or securities”.



1. **Commodity Derivatives:** Commodities like wheat, pepper, sugar and gold are commodity derivatives.
2. **Financial Derivatives:** Futures, Options, Swaps, gilt-edged securities, etc., are financial derivatives.



History of Derivatives in India

The origin of derivatives can be traced back to the need of farmers to protect themselves against fluctuations in prices in their crops. Through the simple use of derivatives products, it was possible for the farmers to partially or fully transfer price risks by locking asset prices.

Derivative markets in India have been in existence for a long time. The Bombay Cotton Trade Association started trading in Commodity Derivatives in 1875. This was the first Commodity Derivative market in “Futures”.

India took the initiative in introducing derivatives in the year 1995, under the Securities Laws (Amendment) Act, 1995. At the beginning of 2000, there was the lift of a ban on futures derivatives for many commodities.

In the year 2000, derivatives trading commenced, but after SEBI granted final approval, to this effect in 2001, with the recommendation of Dr.L.C.Gupta, the actual trading in derivatives took momentum.

Review of Literature

Tripathy (2010)¹ analysed the influence of derivative trading on the underlying market using the GARCH statistical model between 1999 and 2006. They emphasised that the pre and post derivative period has shown a shift in market efficiency due to the flow of information. There was a change in the

Indian capital markets after introducing derivatives.

Mallikarjunappa and Afsal (2008)² analysed that the application of the GARCH model on daily prices of S & P, CNX and Nifty index, suggested that there is no impact of volatility, as it was not due to the introduction of derivatives.

Maniar (2007)³ analysed the effect of the introduction of derivatives (futures & options) in the Indian financial market on the volatility and the trading volume of the underlying index from 2001 to 2006. He observed the impact of variance; the evidence indicated that the conditional volatility of the underlying index declines since the derivatives are introduced.

Antoniou et al., (2005)⁴, authors opined that the progress of and future index of NSE and Nifty hedge the risk by using derivatives.

Nath (2003)⁵, concluded that the rate of volatility had been observed decreasing in the post derivative period. The volatility of market is measured by S & P, CNX, NIFTY, have fallen during post derivatives period.

From the above literature review, it is concluded that the introduction of derivatives was analysed from a volatility viewpoint, and the market volatility is measured as a benchmark by S & P, CNX, NIFTY.

Need for the Study

Indian financial markets domain increasing on par with global financial markets, technology, business environment and economic policies of the country. Derivatives are given prominence in the context of reducing risk in the future by locking the price fluctuations that is caused due to market trends and other incidental factors. Hence, there is a need to study its prospects in the Indian financial markets that recently took place.

Objectives of the Study

Based on the literature review and need for the study, the following objectives are taken for the study.

1. To study the emergence and types of derivatives.
2. To analyse the prospects of derivatives in the Indian financial markets.

Research Methodology

This paper is based on the stock market reports drawn from Stock Exchange Board, official portal,

reputed journals and articles and official websites. The data is secondary, as financial figures and index values can be obtained only from the statistical data.

Derivatives in Indian Financial Markets

Indian derivatives market gained momentum since 2001. There is a transformation of financial structure from the perspective of financial services, products and instruments. The role of SEBI increased in intervening with the investors by its guidelines, and the operations of the stock exchange have been transparent in the recent decade. An increase in business, technology, information on investment invested an easier task with the investors.

Derivative markets are encouraged to lock prices in the future due to market fluctuations from time to

time, caused either by interest rates, market rates or any other factors responsible for price fluctuations.

Derivative markets in this paper are analysed from financial derivatives and commodity derivatives traded at various exchanges. This paper only focused on derivative trading from the Indian perspective and international experience about counterparty, instrument and currency.

The below given two tables have shown the BSE and NSE. BSE with currency derivative segments and NSE with instrument-wise turnover index derivatives. The figure given has shown us the international derivatives from counterparty, instrument and currency viewpoints.

Table 1: Trends in Currency Derivative Segments at BSE (2019-2021)

Table 41: Trends in Currency Derivatives Segment at BSE

Year/Month	No. of Trading Days	Currency Options						Total		Open Interest at the end of the Month**	
		Currency Futures		Call		Put		No. of Contracts	Turnover* (₹ crore)	No. of Contracts	Value (₹ crore)
		No. of Contracts	Turnover (₹ crore)	No. of Contracts	Turnover (₹ crore)	No. of Contracts	Turnover (₹ crore)				
2019-20	243	40,09,27,037	28,52,911	21,46,93,422	15,38,428	32,88,97,100	22,91,933	94,45,17,559	66,83,274	22,88,248	17,251
2020-21§	224	24,75,68,640	18,45,311	15,81,38,454	11,73,620	21,06,75,470	15,41,550	61,33,82,564	45,60,480	20,65,873	15,248
Apr-20	17	1,81,56,395	1,38,820	44,76,787	50,461	1,08,92,153	81,963	3,55,25,337	2,71,144	12,73,915	9,570
May-20	18	1,74,36,081	1,32,223	90,17,175	69,915	1,40,11,006	1,04,007	4,04,64,262	3,06,145	6,78,398	5,152
Jun-20	22	2,37,56,034	1,80,394	1,99,10,793	1,23,085	2,19,94,582	1,63,766	6,16,61,409	4,67,245	7,12,652	5,395
Jul-20	23	2,53,38,836	1,90,383	1,06,97,892	81,977	2,23,87,440	1,64,807	5,84,24,168	4,37,166	6,39,219	4,840
Aug-20	21	2,24,89,598	1,68,111	1,78,86,513	1,36,249	2,00,29,214	1,47,430	6,04,05,327	4,51,790	8,06,498	5,967
Sep-20	22	2,57,89,498	1,89,949	1,46,14,903	1,09,356	1,79,67,576	1,29,973	5,83,71,977	4,29,477	10,31,011	7,778
Oct-20	20	2,10,85,186	1,55,310	1,13,20,523	84,756	2,32,98,862	1,68,851	5,57,04,571	4,08,891	7,89,087	5,854
Nov-20	20	2,29,48,461	1,70,556	1,10,30,906	83,259	2,02,94,564	1,48,432	5,42,33,931	4,02,247	9,50,779	7,083
Dec-20	22	2,44,99,097	1,81,120	2,08,81,148	1,56,898	2,18,30,509	1,58,922	6,72,10,754	4,96,941	17,95,099	13,197
Jan-21	20	2,15,29,952	1,58,092	2,05,35,870	1,53,173	1,78,61,841	1,28,994	5,99,27,663	4,40,262	13,30,567	9,780
Feb-21	19	2,45,79,502	1,80,354	1,67,65,940	1,24,288	2,01,07,721	1,44,529	6,14,53,163	4,49,171	20,65,873	15,248

Note: 1. * Notional Turnover
2. ** OI data is at BSE level.
§ indicates as on February 28, 2021
Source: BSE

Source: BSE Reports, Feb 28, 2021, – Secondary Data

From the above table, it is analysed that no. of trading days are 243 in 2019 and 224 in 2020. The percentage of contracts is 61% of the contracts for futures in 2020-21, when compared to 2019-20. The percentage of contracts is 72.2% of the contracts of call option in 2019-20, when compared to 2021. The percentage of contracts is 67.2% of the contracts of the put option. The total turnover percentage is 68.2% in 2020-21, of the turnover value of 2019-20.

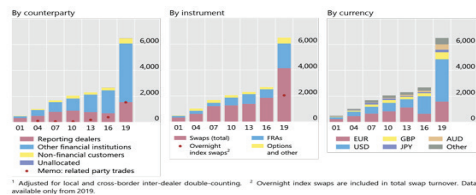
Table 2: Instrument-Wise Turnover in Index Derivatives at NSE

Year/Month	(per cent)		
	NIFTY	NIFTYIT	BANKNIFTY
2019-20	39.0	0.0	61.0
2020-21§	45.0	0.0	54.9
Apr-20	49.6	0.0	50.4
May-20	47.0	0.0	53.0
Jun-20	54.4	0.0	45.6
Jul-20	49.9	0.0	50.1
Aug-20	49.8	0.0	50.2
Sep-20	47.4	0.0	52.6
Oct-20	45.2	0.0	54.8
Nov-20	40.3	0.0	59.7
Dec-20	42.8	0.0	57.2
Jan-21	43.2	0.0	56.5
Feb-21	39.9	0.0	59.9

Note: § indicates as on February 28, 2021
Source: NSE.

Source: NSE Reports, February 28, 2021 – Secondary Data

From the above table, it is observed that NIFTY during 2019-20 is 39%, whereas it is increased to 6% by 2020-21 i.e., to 45%. Bank NIFTY is 61% in 2019-20 followed by 6.1% decrease in 2020-21. The NIFTY IT is completely nil both in 2019-20 & 2020-21.



Source: BIS Triennial Central Bank Survey, 2019 – Secondary Data

Figure 1: Statement of Bank for International Settlements -BIS

From the above chart, it is opined that derivatives are taken based on Counterparty, Instrument and

Currency. The growth in derivatives is highest among financial institutions and non-financial customers from counterparty viewpoint in 2019. According to the instrument, in 2019, Swaps are 2000, and Forward Rate Agreements are 4000 and Options and others were 6000.

Based on currency, the euro currency is ‘zero’ (0), while USD is \$2,000 to \$4,000, followed by GBP, JPY, AUD and Others are together \$6000.

Let’s take the following table that shows the commodity derivatives at exchanges.

Table 3: Commodities Permitted And Traded At Exchanges

Exchanges	Particulars	Futures						Options			
		Agriculture	Metals other than bullion	Bullion	Energy	Gems and Stones	Indices	Agriculture	Metals other than bullion	Bullion	Energy
NCDEX	Permitted for trading	23	1	0	0	0	1	7	0	0	0
	Contracts floated	22	1	0	0	0	5	7	0	0	0
	Traded	16	1	0	0	0	2	3	0	0	0
MCX	Permitted for trading	8	5	2	2	0	2	0	2	2	1
	Contracts floated	8	5	2	2	0	2	0	2	2	1
	Traded	5	5	2	2	0	2	0	2	2	1
ICEX	Permitted for trading	9	1	0	0	1	0	0	0	0	0
	Contracts floated	9	1	0	0	1	0	0	0	0	0
	Traded	1	1	0	0	0	0	0	0	0	0
BSE	Permitted for trading	8	3	2	2	0	0	0	0	2	0
	Contracts floated	8	3	2	2	0	0	0	0	2	0
	Traded	2	0	1	0	0	0	0	0	2	0
NSE	Permitted for trading	1	1	2	1	0	0	0	1	2	0
	Contracts floated	1	1	2	1	0	0	0	1	2	0
	Traded	1	1	1	0	0	0	0	0	1	0

Note: Data is for the month of February, 2021.

Source: NCDEX, MCX, ICEX, BSE and NSE, Feb’2021 – Secondary Data

From the above table, it is observed that, Futures – in the case of Agriculture of NCDEX is showing that contracts permitted are 23, floated are 22 and traded are only 16. Metals are equal to 1, in all cases of permitted, floated and traded. Bullion, Energy and Gems & Stones are (0), while indices are permitted 1, floated 5 and traded 2. Options are showing ‘nil’.

In the case of MCX, ICEX, BSE and NSE, commodities of Futures and Options have differed with a slight variation. Options of all exchanges are almost to (0), except in the case of NCDEX – Agriculture is permitted 7, floated 7 and traded only 3. Metals Bullion and Energy are only between 0 to 2.

Findings of the Study

Based on the analysis of the derivatives from a financial and commodity points of view, the following are the findings.

1. Currency in Futures and Currency Options have shown fluctuation in the percentage of derivatives traded in 2020 compared to 2019.
2. NIFTYIT has completely shown (0) between

2019 and 2020 & 2020-2021.

3. NIFTY and NIFTY Bank has shown progressive growth in 2019-20 and 2020-21.
4. The commodity market has shown progress w.r.t NCDEX in agriculture compared to other exchanges.
5. From international exchanges viewpoint, it is observed that financial institutions derivatives are highest traded when compared to another criterion of derivatives chosen.

Conclusion

Investing in shares, bonds and other securities are prone to risk and uncertainty. Every investor’s aim is to reduce risk and overcome uncertainty in their investment schemes. Pricing a commodity or security in future is a difficult task, as the future is uncertain. Locking the prices has been a phenomenal change that is associated with derivatives as a special feature. Derivatives market in India is still in the developing stage. Awareness of derivative markets is to be created among the investors who seek to invest in risk minimising projects. The commodity

market is grown from agriculture only, not in other commodity areas. The commodity derivative market for gems & stones, metals, bullion, energy is shown very less traded. The trading of financial derivatives has shown progress in futures and options. Forwards, Contracts, Swaps are to be traded among the exchanges. The interest rate fluctuations must be kept in mind while trading on derivatives.

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