Research Paper Mangement

A Study on Stock Market Volatility: Futures & Options V/S Cash Market

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KEYWORDS | Futures & Options, Cash Market, CNX NIFTY and Regression Analysis.

ABSTRACT

The Study is to know the impact of F&O on Stock Market Volatility with reference to S&P CNX Nifty. Derivatives (F&O) was introduces in the June, 2000 and it's made Indian security market more volatile. Study was conducted for the period of June, 2000-01 to 2014-15(February).By using published data of derivative turnover and cash market and CNX NIFTY from NSE and SEBI reports and websites. Finally by using regression analysis the study concluded that there would be a positive impact/relationship between derivatives trading and cash market and CNX NIFTY.

INTRODUCTION

Capital market place where investors can buy and sale the securities and corporate houses can obtain the funds for financing their project/Business. But due to high volatility of market creates risk on investment. Risk can be defined as deviations of the actual results from the expected. We all would like to eliminate this risk altogether and live in a world of certainty. However, complete elimination of risk is impossible, but certain steps can be taken to mitigate risk to a considerable extent. For Example Price Risk, Exchange Risk and Interest Rate Risk. For protection against those risk derivative was invented. Derivatives are a financial instrument for managing the risk in business or in financial market too.

Derivative trading commenced in India in June 2000 after SEBI granted the final approved to this effect in May 2001 on the recommendation of L.C. Gupta committee. Securities and exchange board of India (SEBI) permitted the derivative segments of two stock exchanges, NSE and BSE and their clearing house/corporation to commence trading and settlement in approved derivative contracts. Initially SEBI approved trading in index futures contract based on various stock markets indices such as S&P CNX, Nifty and Sensex. Subsequently, index based trading was permitted in option as well as individual securities.

After the introduction of the derivatives market was becomes more volatile, the concept of volatility in the stock market is defined as a measure for the size and the frequency of fluctuations of the underlying asset's price for a time period.

In recent years, the volatility of many financial assets has increased and this issue has attracted the interest of many financial managers, Investors and academicians. For example, derivatives markets use to attract more and more uninformed investors because of the higher degree of leverage. Thus, the lower the information received by the traders in the cash markets, the higher the volatility of the price fluctuations.

Here this study is to compare the derivatives market (F&O) and Cash Market.

Cash Market: The spot market or cash market is a public financial market, in which financial instruments or commodities are traded for immediate delivery. It contrasts with a futures market in which delivery is due at a later date.

The **CNX Nifty** is the flagship index on the National Stock Exchange of India Ltd. (NSE). The Index tracks the behavior of a portfolio of blue chip companies, the largest and most liquid Indian securities. It includes 50 of the approximately 1600 companies listed on the NSE, captures approximately 65% of its float-adjusted market capitalization and is a true reflection of the Indian stoc0k market.

The CNX Nifty covers 21 sectors of the Indian economy and offers investment managers exposure to the Indian market in one efficient portfolio. The Index has been trading since April 1996 and is well suited for benchmarking, index funds and index-based derivatives.

Derivatives (Future Market)

It contrasts with a cash market; in futures market delivery is due at a future date.

Derivatives are the financial instruments for managing the risk, its derive its value from the value of the underlying assets like stocks, commodities, currency, etc. In other words, Derivative means a forward, future, option or any other hybrid contract of pre determined fixed duration, linked for the purpose of contract fulfillment to the value of a specified real or financial asset or to an index of securities

Derivatives contracts can either be over-the-counter contracts or exchange-traded contracts.

- **Over-the-counter** contracts are between private parties, and the terms of the contract are decided between the two parties. The main problem with over—the-counter contracts is searching for a party willing to enter into the contracts. However, this problem is solved by brokers whose job is to bring the parties together. These contracts are highly unregulated and less transparent.
- **Exchange-traded contracts** are traded on derivatives exchanges. The exchanges decide upon the terms of the contract, and the parties can trade these contracts in a manner similar to the trading of shares in a stock exchange. Exchanges are regulated, and they also offer transparency

In India Derivatives (F&O) the exchange-traded market, was begun in June, 2000 at National Stock Exchange (NSE). Index futures were introduced in June, 2000, followed by index options in June 2001, and options and futures on individual securities in July 2001 and November 2001, respectively. Derivatives on stock indexes and individual stocks have grown rapidly since inception.

Structure of Derivatives

For regulating and governing of derivative market in India government as structure the following chart of assigning controlling and regulating power to SEBI and RBI for financial Derivatives and Forward Market Commission for Commodity derivatives.

Figure-1 Structure of Derivatives Market in India



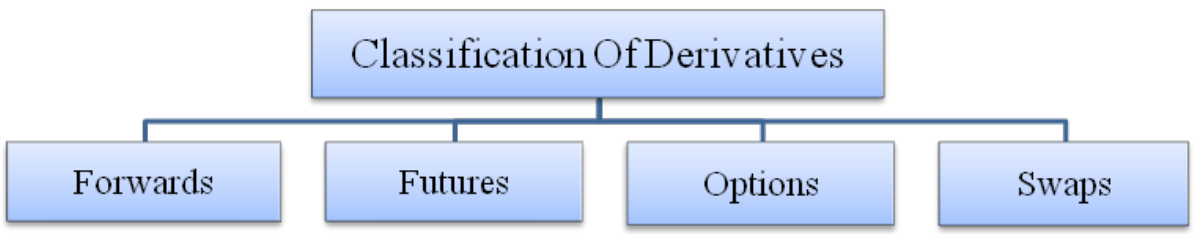
Needs of Derivatives

- For hedging risks
- For speculate (take a view on the future direction of the market)
- For lock in an arbitrage profit
- For change the nature of a liability
- For change the nature of an investment without incurring the costs of selling one portfolio and buying another

Products/classification of derivatives:

Followings are the four Products/Classification of Derivatives:

Figure-2 Classification of Derivatives



Turnover and Growth

There are two types of derivatives are traded on Stock exchanges which are futures and options (F&O), there turnover are given below with value of CNX NIFTY.

Table 1 Turnover and Growth of Cash and Derivative Market and CNX NIFTY

Date	CNX NIFTY	Annual Growth CNX NIFTY	Cash Market	Annual Growth Cash Market	F&O	Annual Growth F&O
			Turnover (INR. Cr)		Turnover (INR. Cr)	
2000-01	1148.2	-	571150.57	-	2365	-
2001-02	1129.55	-1.62	312254.89	-45.33	101926	4209.77
2002-03	978.2	-13.40	357647.15	14.54	439862	331.55
2003-04	1771.9	81.14	734745.75	105.44	2130408	384.34
2004-05	2035.65	14.89	726729.4	-1.09	2546982	19.55
2005-06	3402.55	67.15	778217.05	7.08	4824174	89.41
2006-07	3821.55	12.31	982977.02	26.31	7356242	52.49
2007-08	4734.5	23.89	1546935.3	57.37	13090478	77.95
2008-09	3020.95	-36.19	1614228.7	4.35	11010482	-15.89
2009-10	5249.1	73.76	2144609.9	32.86	17663665	60.43
2010-11	5833.75	11.14	1688895.1	-21.25	29248221	65.58
2011-12	5295.55	-9.23	1511340.3	-10.51	31349732	7.19
2012-13	5682.55	7.31	1401763.5	-7.25	31533004	0.58
2013-14	6704.2	17.98	1579587.3	12.69	38209215	21.17
2014-15	8901.85	32.78	1768985.6	11.99	48789585	27.69

Source

F&O Turnover: http://www.nseindia.com/content/fo/fo_businessgrowth.htm

CNX NIFTY and Cash Market Turnover:

http://www.nseindia.com/products/content/equities/indices/historical_index_data.htm

Figure 3 CNX NIFTY with CASH and Derivatives Turnover (INR Cr.)



From the above data and chart we understand that after the introduction of derivatives has made Indian cash market volatile. And there was a very high growth of F&O market compare to cash market and both have positive relation. During this period CNX NIFTY show more volatile.

STUDY BACKGROUND

The study is to know relationship between F&O trading on cash market. Here I have used turnover of F&O and Turnover of NSE in Cash Market for 15 years (May, June, 2000-01 to 2014-15).Data are collected from the secondary scarce from the website and Published report of SEBI and NSE during June, 2000-01 to 2014-15. By using regression analysis I have test the data for final conclusion.

REVIEW OF LITERATURE

Ruchika GAHLOT, Saroj K. DATTA, Sheeba KAPIL (2010) The Purpose of the study is to examine the impact of derivative trading on stock market volatility. However, results show mixed effect in case of 10 individual stocks. **Dr. Meera Bamba, Dr. Ravi Kumar Gupta, Deepali Arya (2013)** the study attempted to estimate the volatility implications of the introduction of derivatives on the cash market. **T. Mallikarjunappa and Afsal E. M(2008)** The post derivatives period shows that the sensitivity of the index returns to market returns and any day-of-the-week effects have disappeared. That is, the nature of the volatility patterns has altered during the post-derivatives period. **Dr. Premalata Shenbagaraman** The study is to assess the impact of introducing index futures and options contracts on the volatility of the underlying stock index in India.

Objectives of the study

- To know the impact of derivatives trading on cash market.
- To know the impact of derivatives introduction on CNX NIFTY.
- To know Derivatives market in India.
- To know cash market volatility.

METHODOLOGY

Methodology is way of through which data are collected and tested to know the result. For the study purpose data were collected from the secondary source from published report and websites of SEBI and NSE during 2000-01 to 2014-15. Here Regression was used to know the relationship between impact of derivatives (F&O) turnover on Cash market turnover & CNX NIFTY.

ANALYSIS AND INTERPRETATION

Following are the two hypotheses were tested by regression analysis in MS Excel for analysis purpose.

H_{01}: there is a no significance relationship between F&O Turnover and CNX NIFTY

Table 2 Regression Statistics-I

Regression Statistics	
Multiple R	0.951841
R Square	0.906001
Adjusted R Square	0.89877
Standard Error	5088171
Observations	15

From the above computation of hypothesis here R=0.95 and R-square=0.90. So that there is strong Positive relationship between F&O Turnover and CNX NIFTY. So here null hypothesis is rejected.

H_{02}: there is a no significance relationship between F&O turnover and Cash Market Turnover

Table 3 Regression Statistics-II

Regression Statistics	
Multiple R	0.754421
R Square	0.569151
Adjusted R Square	0.536008
Standard Error	10893385
Observations	15

From the above testing of hypothesis here R=0.75 and R-square=0.57. So there is moderate positive relationship between F&O Turnover and Cash Market Turnover, so null hypothesis is rejected.

FINDINGS

It is found that there is strong positive relationship between F&O and Cash Market. After the introduction of derivatives has push the cash market at top level and it has made Indian stock market more volatile.

SUGGESTIONS

It would like to suggest that to make the cash and derivative market less volatile and more transparent, reduced charges and more safety to investors.

CONCLUSION

At last, after analysis and result it is concluded that there is strong positive relationship between F&O Market and Cash Market. In the year June, 2000 value of CNX NIFTY was around 1500 points, but after the introduction of derivatives (F&O) in May-June, 2000 has also pushed the cash market up. In 2000-01 derivatives turnover is around INR 2365 Cr. and Cash Market turnover was INR 571150.57 Cr. And in the year 2014-15 it reached at 48789585cr. and 1768985.6 cr. respectively. Average Annual growth is concerned cash market growing at 11.54% per annum F&O growing at 69.76% per annum and CNX NIFTY at 20% per annum during last 10 years (2005-06 to 2014-15). Then after CNX NIFTY was continuously moving up and up and today it cross the level of 8900 Points. So introduction of Derivatives (F&O) has created more volatile market and has enhanced the investor's confidence and wealth.

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