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A STUDY OF VOLATALITY OF INDIAN STOCK MARKET

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INTRODUCTION

In recent years the increasing importance of the future market in the Indian markets has received considerable attention from researchers, academicians and financial Analysis. the present study is undertaken with an attempt to determine the share price movements and its volatility of the selected ten companies of financial service sector, which is in nifty fifty companies list.

In this research, we attempt to study the volatility implications of the introduction of derivatives on the cash market. Through this study, we seek evidence regarding whether the listing of futures and options lead to any significant change in the volatility of the cash market in India. We select a general index called the S&P CNX Nifty Index to which the first derivatives contract was introduced by the NSE in India. The previous study noted the peculiar characteristics of IT stocks and arrived at the conclusion that stock-specific characteristics must be studied for any general conclusion. As a benchmark index, the Nifty Index is expected to show wider, more balanced and more applicable results and thus can be treated as a true replica of the Indian derivatives market. Most of the Indian studies did not consider options contract, but this study examines the introduction of options while also analysing volatility

Capital market is a place for buying and selling of long- term financial claims. It is themarket wheretransactions are made in long term securities such as stocks and bonds. The participants of this market includes various financial institutions, mutual funds, agents, brokers, dealers, individual investors andother borrowers andlenders oflong term debt and equity capital. Capital market consists of two majorparts

1) Primary Market and 2) Secondary Market.

The primary market or otherwise called as new issue market is one in which long term capital is raised by corporate directly from the public. The secondary market or popularly called as the stock market refers to the market where these long-term financial instruments which are already issued in the primary market are traded.

INDIAN STOCK MARKET

Indian stock market is one of the oldest stock market in Asia. It dates back to the close of 18th century when the East India Company used to transact loan securities. In the 1830s, trading on corporate stocks and shares in Bank and Cotton presses took place in Bombay. The trading was very little and it gradually improved. After a long journey, a formal stock exchange called Bombay Stock Exchange. During 1980's, growth of economy was highly unsustainable because of its dependence on borrowings to correct the current account deficit. To reduce the imbalances, the government of India introduced economic policy in 1991 to implement structural reforms. The financial sector at that time was much unstructured and its scope was limited only to bonds, equity, insurance, commodity markets, mutual and pension funds. In order to structure the security market, a regulatory authority named SEBI (Securities and Exchange Board of India) was established and first electronic exchange National Stock Exchange was also set up.

The Indian stock market, like any other, is influenced by a wide range of factors that contribute to its volatility. Some of these factors include:

1. Economic Indicators: Key economic indicators such as GDP growth, inflation rates, interest rates, and employment figures play a significant role in shaping investor sentiment and impacting market volatility.

2. Global Events: As a part of the interconnected global financial system, the Indian stock market is susceptible to fluctuations caused by international events, geopolitical tensions, and changes in global economic conditions.

3. Corporate Performance: The financial performance of companies listed on Indian stock exchanges has a direct impact on their stock prices and can trigger volatility in the broader market.
4. Government Policies: Economic policies and reforms implemented by the Indian government can influence market sentiment and contribute to market swings.

It's important to note that while volatility brings potential opportunities, it also introduces risks. Investors and traders need to be well-informed, have a clear understanding of their risk tolerance, and employ appropriate risk management strategies to navigate the dynamic nature of the Indian stock market. Additionally, regulators and market participants continually work towards ensuring transparency and stability in the market to mitigate extreme fluctuations and maintain investor confidence.

NEED FOR THE STUDY

Stock Market volatility is unavoidable. It is the nature of the stock markets to fluctuate and turn red and green within short span of time. Volatility is an essential part of the stock market because it checks the nerve of the market. As a coin has two sides, the same way market has two aspects the positive and the negative. It can be seen that volatility has its long term impact in the market so an investor is required to take all possible measures to design his portfolio. Stock returns bear a good relationship with volatility as with increase in financial volatility stock prices fluctuates. An average investor gets very less returns as compared to the average market returns.

LITERATUREREVIEW:-

1. **Bedantaboraaninditaadhikar (2019):-**

This study uses GARCH models, which account for volatility clustering and the leverage effect, to examine the volatility of returns in Stock Market of India. The investigated data are the Nifty index's daily closing prices from 2005 to 2019.

2. **Rajashekar, D.Sudarsanamurthy, T.Narayanareddy (2018):-**

The stock market may also serve as a centre for investors to buy and sell shares, bonds, and other financial instruments. In other words, the stock market might also serve as a barrier-free platform for trading different assets and derivatives. Various businesses are listed to their commercial ventures on the open market through public problems. Future investors are currently making investments in businesses through the stock market in order to profit .

3. **Subbalakshmi, (2016)** inferred that in the year 1990's financial sector reforms had changed the Indian capital markets into a dynamic and extensive in the context of world financial market. With the arrival of globalization in India accurate efforts were made in strengthening the investor assurance. Financial markets were very resourceful in increasing the popularity of derivatives instruments which exemplified how resourcefully markets were capable to package and manage risk. At the present in world markets for trade and business have become further incorporated, derivatives have strengthened these significant linkages between global markets, increasing market liquidity and effectiveness. In India, the emergence and growth of derivatives market was relatively a recent phenomenon. By underling asset prices, derivative products lessen the effect of

fluctuations in asset prices on the profitability and cash flow position of risk averse investors.

4. **Rabia Najaf and Khakan Najaf, (2016)** analysed in their research that the relationship between Indian rupees-US dollar exchange rate and Nifty returns. This research was based on dynamic behavior between stock markets movement and volatility of stock market for this purpose; they had applied several statistical tests. There was negative relationship between exchange rate and Nifty returns exchange rate. For testing the causal relationship between these variables they had used Granger causality test. This test had shown that there was unidirectional relationship between exchange rate and Nifty returns. This study was trying to attempt that stock market was crucial for the economy. Different researchers had proved from their research that exchange rate was the main determinates of business profitability. This study had provided such type of information, which would favorable for the gaudiness of management decision about the risk and investment. This information will beneficial for government policies. The maintained of foreign exchange would motive the foreign investors.

OBJECTIVES OF THE STUDY

A lot of research has been done to determine the linkage between developed and emerging markets. However, not much attention has been given on the detection of the volatility transmissionbetween emerging markets. Hence, this paper is anattempt to examine the trend in volatility over different months in the study period of both the emerging economies and to identify the linkage or relationship between Indian and Chinese stock market. The objectives of the current study are:

1. To determine the trend in volatility in BSESensex vis a vis SSE Composite.
2. To identify the reasons for volatility in Indianstock market.
3. To determine the causal relation betweenBSE Sensex and SSE Composite.

DATABASE AND METHODOLOGY

The present study is based on the volatility in BSE Sensex and SSE Composite. BSE Sensex, the free-float market capitalization based index, estimated on the basis of 30 stocks is considered to be the representative of the Indian equity market. The SSE Composite Index is stock market indexes of all stocks (A shares and B shares) that are traded at the Shanghai Stock Exchange, calculated using a Paasc weighted composite price index formula.

The time period chosen for study is April 2004 to March 2012. This period has been selected because it represents the period during which the global and the Indian economy has passed through many ups and downs, thus, affecting the volatility of the Indian and Chinese stock exchanges. The monthly closing prices have been taken from the BSE website and yahoo finance. From the closing prices, returns have been calculated for each month.

Return is calculated using logarithmic method as follows:

$$r_t = (\log p_t - \log p_{t-1})*100$$

where

r_t = Market return at the period tp_t= Price index at day t

p_{t-1}= Price index at day t–1 and

log = Natural log

Volatility has been calculated as the standard deviation of the natural log of returns in indices for the respective period. Graphs have been used to evaluate the trends in volatility over to facilitate comparison. Separate graphs have been drawn for each individual year of the study and reasons for the volatility have been identified from them.

Granger causality test has also been applied in order to examine the dynamic linkage between Sensex and its Sectoral Indices. Granger causality test is applied on a stationary series. This test analyses the two given factors to identify the cause and affect variable.

Conclusion

The analysis of the stock market cycles shows that in general over the reference period the bull phases are longer, the amplitude of bull phases is higher and the volatility in bull phases is also higher. The gains during expansions are larger than the losses during the bear phases of the stock market cycles. The bull phase in comparison with its pre liberalization character is more stable in the post liberalization phase. The results of our analysis also show that the stock market cycles have dampened in the recent past. Volatility has declined in the post liberalization phase for both the bull and bear phase of the stock market cycle. There was evidence from all the indices of time varying volatility which exhibited the sign of clustering, high persistence and predictability in India stock market. On the basis of results of various tests, it can be concluded that Nifty and NSE Nifty and Nifty fifty Selected Companies of Financial Service Sector is fairly weak form efficient and follow random walk during the study period. In this period, Indian stock market is approaching towards the state of fairly weak efficient market. As per the results, stock market efficiency is improving which can be the results of improvement in technology, regulation regarding disclosures, and the amount of retail participation etc. In the nutshell, with the growth of technical facilities in the capital market and removal of investment barriers, the integration of Indian stock market along with international stock markets will increase in future.

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