A Study on Future Stock Market Volatility With Special Reference to Nifty Index

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ABSTRACT

India has the third largest investor base in the world after USA and Japan. Over 7500 companies are listed on the Indian stock exchanges. Derivatives have contributed substantially to this impressive development. The derivatives are defined as the future contracts whose value depends upon the underlying assets. In India, derivatives were launched mainly with two objectives namely risk transfer and to increase the liquidity for the better market efficiency. Introduction of the index future trading in the derivatives product may affect the individual stocks trading in the future market. The future market index in India is facing market fluctuations due to globalization. So, investors can make investment in future stock markets like SBI, INFOSYS, RELIANCE and to invest in future index like CNX S&P NIFTY which, is now facing huge fluctuation in India, due to economic factors

KEY WORD: Future index, NIFTY index, NSE.

INTRODUCTION

Indian financial market has seen drastic growth and innovation in the history of past 20 years. It has been witnessing major operational and structural changes as a result of ongoing financial sector reforms initiated by the Government of India since 1991 in the wake of liberalization. The major activities of these reforms have been to improve market efficiency, enhancing transparency and bringing the Indian capital market up to international standards. With over 25 million shareholders, India has the third largest investor base in the world after USA and Japan. Derivatives have contributed substantially to this impressive development. Today, they are a main pillar in the global financial system. The derivatives are defined as the future contracts whose value depends upon the underlying assets. Future trading in India commenced in June 2000, with the introduction of stock Index futures by BSE and NSE. A 'Future' is a contract to buy or sell the underlying asset for a specific price at a pre-determined time. In India, Nifty Index is the most popular stock index and it is based on the top 50 stocks traded in the market. Just as derivatives on stocks are called stock derivatives, derivatives on indices such as Nifty are called index derivatives.

The S&P CNX Nifty, also called the Nifty 50 or simply the Nifty, is a stock market index, and one of several leading indices for large companies which are listed on National Stock Exchange of India. index based derivatives and index funds. The S&P CNX Nifty currently consists of 50 major Indian companies. Future stock companies are ITC, INFOSYS, SBI, and RELIANCE.

In finance, volatility is a measure for variation of price of a financial instrument over time. Historic volatility is derived from time series of past market prices. An implied volatility is derived from the market price of a market traded derivative. The relative rate at which the price of a security moves up and down, Volatility is found by calculating the annualized standard deviation of daily change in price. If the price of a stock moves up and down rapidly over short time periods, it has high volatility. If the price almost never changes, it has low volatility.

REVIEW OF LITERATURE

M Thenmozhi and M Sony Thomas et al (2004) conducted a study on “Impact of Index Derivatives on S&P CNX Nifty Volatility: Information Efficiency and Expiration Effects” The aim of this paper is to examine the impact of derivatives trading and cash market volatility in the Indian context. The results provide evidence of increased market efficiency in the Indian stock market after the introduction of derivatives.
Sangeeta Wats (2011) conducted a study on “Repercussions of Futures Trading on Spot Market: The NSE Saga”. This paper probes into the repercussions on the underlying spot market volatility due to the introduction of futures operations in Nifty. The results show that the introduction of futures trading has reduced the underlying spot market volatility and has contributed towards enhancement in market efficiency. The introduction of futures trading might have enhanced the information flow and the shift of speculative activity from the spot to the futures market.

Dhananjay Sahu (2011) conducted a study on “Does Index Futures Trading Influence Spot Market Volatility? Evidence From Indian Stock Market”: The results of GARCH coefficients suffice the fact that past conditional variance has a greater impact on the volatility of market returns than recent news announcements.

STATEMENT OF PROBLEM

In India, derivatives were launched mainly with two objectives namely risk transfer and to increase the liquidity for the better market efficiency. Introduction of the index future trading in the derivatives product may affect the individual stocks trading in the future market. so the researcher identifies the modeling of future returns volatility as the one of the key areas of present financial research.

RESEARCH OBJECTIVES

• To find the future stocks returns and index returns
• To analyse and compare the intraday volatility of futures stocks and index
• To offer suggestions on the above findings

METHODOLOGY

Type of study:
The study is primarily descriptive in nature. The main aim of Descriptive research is to describe the data and characteristics about what is being studied.

Data collection:
Data collected from Secondary sources from NSE (www.nseindia.com). The price of open, close, high and low of the Future index CNX S&P Nifty and future Stocks such as ITC, INFOSYS, SBI and RELIANCE which were the top 4 stocks in NSE during the period of April-2013 to September-2013 were collected.

Tools for analysis:
The following tools were used for analysis

- Logarithmic method of returns analysis
  \[ R_t = \log P_t - \log P_{t-1} \]

  Where \( R_t \) indicates return, \( P_t \) indicates today’s price, \( P_{t-1} \) indicates yesterday’s price
Findings

Returns

- The daily returns of Selected future stocks and index shows the number of days of positive and negative returns of future market index and stocks. CNX S&P NIFTY, ITC, INFOSYS, SBI and RELIANCE from April 2013 to September 2013. The CNX S&P NIFTY shows a high number of days of positive returns. Among the four future stock selected the ITC and INFOSYS shows high number of positive returns and also INFOSYS has no return for seven days of project period. Thus comparing 4 future stocks with the future index, ITC has more number of day’s positive returns.

Descriptive statistics of future index CNX S&P NIFTY and future stocks ITC, INFOSYS, SBI and RELIANCE for the period April 2013 to September 2013.

- The descriptive statistics of CNX S&P NIFTY for the period of April 2013 to September 2013. The measures of dispersion, the range 0.030611, standard deviation 0.005398, shows that variation and risk level is high in CNX S&P NIFTY. The mean return is -0.000197 which shows the negative average return.

- The descriptive statistics of ITC for the period of April 2013 to September 2013. The measures of dispersion, the range 0.049972, standard deviation 0.008005, shows that variation and risk level is high in ITC. The mean return is 0.000041 which shows the positive average return.

- The descriptive statistics of INFOSYS for the period of April 2013 to September 2013. The measures of dispersion, the range 0.075121, standard deviation 0.007173, shows that variation and risk level is high in INFOSYS. The mean return is 0.000206 which shows the positive average return.

- The descriptive statistics of SBI for the period of April 2013 to September 2013. The measures of dispersion, the range 0.062438, standard deviation 0.008648, shows that variation and risk level is high in SBI. The mean return is -0.001403 which shows the negative average return.

- The descriptive statistics of RELIANCE for the period of April 2013 to September 2013. The measures of dispersion, the range 0.04566, standard deviation 0.007814, shows that variation and risk level is high in RELIANCE. The mean return is -0.000117 which shows the negative average return.
The comparison of 4 future stocks and index – CNX S&P NIFTY, ITC, INFOSYS, SBI, RELIANCE. The measurement of dispersion of range value among individual stocks and index, which is the CNX S&P NIFTY shows the highest which means more volatility exist in CNX S&P NIFTY and less volatile in SBI. The risk level is very high in CNX S&P NIFTY and very less in other stocks.

Intra-day volatility
Intra-day volatility for the future index CNX S&P NIFTY and future stocks ITC, INFOSYS, SBI and RELIANCE for the period April 2013 to September 2013.

- **CNX S&P NIFTY** shows the extreme volatility on the month of August 2013 and very low volatility on the month of July 2013.
- **ITC** shows the extreme volatility on the month of August 2013 and very low volatility on the month of April 2013 and June 2013.
- **INFOSYS** shows the extreme volatility on the month of April 2013 and very low volatility on the month of May 2013 and August 2013.
- **SBI** shows the extreme volatility on the month of September 2013 and very low volatility on the month of June 2013.
- **RELIANCE** shows the extreme volatility on the month of July 2013 and very low volatility on the month of August 2013 and September 2013.

RECOMMENDATIONS

- Future market has become an important tool to determine prices based on today’s and tomorrow’s estimated amount of supply and demand. Price depends upon continuous flow of information from around the world which effect on supply and demand and as a result present and future price of the commodity is discovered. So with this future market people will be able to reduce their loss.
- It is also place for people to reduce risk when making purchases, because price is pre-set, therefore letting participants know how much they will need to buy or sell.
- It helps reduce the ultimate cost to the retail buyers because with less risk there is a less of chance that manufacturers will jack up prices to make up for profit losses in cash market.
- At present future market index is facing market fluctuations due to globalization. So it is not safety for the investors to invest in the future market index. Even within a day the market price fluctuates so it is not advisable to invest at present by the individual investors.
- It is advisable to invest in future stocks which is less risk than future market index at present.

CONCLUSION

The future market index in India is facing market fluctuations due to globalization. So, investors can make investment in future stock markets like SBI, INFOSYS, RELIANCE and to invest in future index like CNX S&P NIFTY which is now facing huge fluctuation in India, due to economic factors. In future, there is a scope for future indexes when, the market fluctuations are expected to be low. From this it is concluded that investors who, are willing to take high risk can invest in future index and those who, are not ready to take high risk can invest in future stocks.
REFERENCES


PROJECT REVIEWS


WEBSITES

- www.nseindia.com/index.htm
- www.coimbatorecapital.com
- www.investopedia.com