GLOBAL FINANCIAL CRISIS AND ITS IMPACT ON INDIAN SECURITIES MARKETS: AN EMPIRICAL STUDY

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Abstract

The paper makes an attempt to analyze the impact of the crisis on Indian securities market with a special reference to the performance of the S&P BSE SENSEX companies. The study is divided into three periods. The first being taken as the pre-crisis period from (2005-2007), second is crisis period (2008-2009) and lastly the post-crisis period from (2010-2013Feb).

Keywords: Global financial crisis, securities market, S&P BSE SENSEX, risk and return

Introduction

A financial crisis is a situation that causes an interruption in the smooth functioning of the financial market, associated with a sudden decline in the value of financial assets or institutions. It also includes other situations like the banking panics, stock market crash, bursting of other financial bubbles, currency crisis and sovereign defaults. Financial crisis in one country becomes global when its contagion effect spreads to the other countries in the world. Global financial crisis is indeed a difficult situation to overcome as the consumers lose confidence in the growth of the economy, thereby spending less, which leads to decrease in demand for goods and services and hence there is a fall in the production level, which ultimately leads to layoff and unemployment.

The root cause of the current global financial crisis is attributed to the subprime mortgage crisis originating in US in the year 2007. The subprime mortgage crisis that broke out in 2007 in US market was triggered by the faulty lending process, providing loan at a low interest rate at ease to low income group borrowers, creation of housing bubble and the use of highly volatile complex 'toxic' financial instrument the Collateralized Debt Obligations (CDO). Few Indian banks having invested in the CDO's which had a few underlying entities having subprime exposure was affected by the crisis. The subprime crisis originating in US rapidly spread to other countries and gradually transformed to a global financial crisis.

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The impact of the crisis has been reflected in the form of falling stock markets, collapse of the investments banks, shut down of big industrial firms, falling demand, increasing unemployment. Those having a greater exposure to global financial market were affected more than those having lesser exposure.

Literature Review

Literature survey is one of the most vital parts of any research work for the judgment of the relevancy of the research work under consideration. There is no scarcity of works in the area of global financial crisis. A good number of research works has been done on this topic. The following are the instances of some notable works in this area.

Reinhart and Rogoff, (**2008**) examined the relationship between the subprime crisis and financial crisis. They stated that the subprime was the main reason of the global financial crisis. **Subbarao,** (**2009**) opined that the subprime crisis originating in US rapidly spread to other countries and permeated from the financial sector into the real economy through different channels. **Gieve**,(**2008**) identified the three important aspects of financial crisis, viz., (i) the origination of the crisis, (ii) the policy challenges and (iii) the lessons learnt from the crisis. He attempted to highlight the causes of the crisis and the necessary policy measures that should be adopted by the affected economies to revive its growth. Finally, he concluded by stating that both the developed as well as the developing/ emerging economies have been affected by the global crisis. **Rajkumari**, **Mittal and Singh**, (**2010**) observed that India was not likely to be affected by the crisis due to its strong fundamentals. **Ellis**, (**2009**) examined the causes of the financial crisis and its impact particularly in Australia. **Nasution,** (**2010**) examined and concluded that the impact on the economies of Asia Pacific Region was multifold. **Bhaskaran**, (**2009**) examined the impact of global crisis on South East Asian economies. He concluded that the extent of impact on the emerging economy was different in different sectors. **Padmasani and G. Lalitha Kumari** (**2010**) mentioned about the effect of financial crisis on different sectors of Indian economy. **Dawood** (**2010**) examined the impact of the financial crisis on the stock market, corporate sector and forex market. Another research work confirmed the fact that Indian securities market was severely affected by the crisis mainly due to the reversal of portfolio investments **Manimekalai**, (**2010**). **Sharma and Ashraf**, (**2011**) opined that quantification of the impact of crisis on India's economy is indeed a difficult task but India was to some extent affected by the spillover effect of the crisis. **Arunchalam**, (**2011**) conducted an empirical study to analyze the impact of global financial crisis on Indian economy. He found that India was being affected by the crisis but the extent of the impact was different in different sectors. He further stated that the export oriented sector was affected most in comparison to other sectors. **Muthukumar, Senthamil and Palanichamy** (**2011**) found that Indian stock market was affected by the crisis. **Khandelwal (2011)** conducted a study about the impact of global recession on Indian BPO companies. Finally, to conclude, it can be said that Indian

economy was affected by the crisis but the extent of impact was different in different sectors.

Objectives of the Study

The present paper aims to examine the following objectives:-

i) To identify the different reasons for global financial crisis, and

ii) To examine the impact of the global financial crisis on the Indian securities market.

Data Sources and Methodology

The study is both exploratory and empirical in nature. The exploratory part of the study is based on the current literature available in the market on this particular issue in the form of books, journal articles, research studies and websites. Data are obtained from the websites of the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE), SEBI Handbook of Statistics on Indian Securities Markets, Reserve Bank of India (RBI) Handbook of Statistics on Indian Economy, Investment Company Fact Book, various reports and articles published in financial dailies, finance-based magazines and periodicals.

Methodology

For the purpose of analyzing the impact of financial crisis on Indian securities market as per the stated objective, the equity performance analysis measure of S&P BSE 30 companies representing SENSEX has been selected. The period of study is for a time frame of 8 years 2 months from January 2005 to February 2013. The total study is divided into three periods: (i) Pre-crisis period (2005-2007), (ii) Crisis period (2008-2009) and (iii) the Post crisis period (2010 -2013 Feb).

Brief outlines of the various statistical tools that have been used for performance analysis are:

Return: Daily returns of the individual company's scrip's opening[1], closing[2] and weighted average price[3] (WAP) and SENSEX has been calculated. Daily return indicates the change in the share price over a particular day (i.e. holding period).After calculating the daily return the maximum, minimum and the averages of the calculated series has been taken as the return estimating parameter.

Risk: Standard deviation (SD) and Coefficient of Variation (CV) have been calculated for risk estimation. SD has been calculated to measures the volatility in share/scrip's price. It measures the dispersion of actual from the expected in absolute terms and CV is a relative measure of dispersion calculated to measure the risk in relative terms.

Correlation Coefficient (R)

It has been calculated to measure the degree of association between the individual company's share price movements with the SENSEX movement.

The rationale behind taking daily data of the share price for performance analysis, rather than monthly or yearly is to capture the significant fluctuations in share prices which may not be captured or reflected if monthly or yearly data is taken, since month or year is a longer time period.

Assigning the Title of Best, Worst and Moderate Performers for Performance Analysis:

In order to make a performance analysis of the select companies, the companies have been assigned the title of best, worst and moderate performers after making a comparison among the companies. Basis for assigning the titles to the select companies are noted below.

Steps	Basis of assigning title
Step-1	Maximum/ Highest and Minimum/ Lowest value of the calculated return, risk estimating parameter and the correlation have been taken.
Step-2	Based on that Average has been calculated. Above Average - Assigned as Best Performers Below Average - Assigned as Worst Performers Average - Assigned as Moderate Performers
Step-3	Range has been calculated. Based on the range value dividing it by the number of class intervals as mentioned width of the class interval has been found out.

Reasons for the Global Financial Crisis

The US subprime crisis is attributed as the main cause of the current global financial crisis. The major factors that contributed to the subprime crisis in US which is attributed as the major cause of the global financial crisis can be summed up as follows:-

i) The low rate of interest charged by US banks.

ii) Use of highly volatile complex financial instruments as mortgage like the Collateralized Debt Obligations (CDO) and Credit Default Swaps.

iii) The credit bubble was due to low interest rates and easy borrowing conditions.

iv) The profitability objective of the banks and the other financial institutions to expand the credit.

Other causes of global financial crisis have been identified are (i) Misperception and under-pricing risk factor (ii) Loose monetary policy of US (iii) Relaxation of lending standards iv) Deregulation of financial system. Now, the subprime crisis transformed to global financial

crisis as the spillover effect of the crisis spread to the other countries rapidly.

Empirical Findings

The impact of global financial crisis on Indian securities market has been studied by analyzing the equity market performance of the S&P BSE 30 companies representing the SENSEX. The term equity in the trading world refers to stock. Equity market performance refers to the stock market performance.

As stated in methodology for the purpose of empirical analysis, return, risk /volatility of the scripts and the correlation of individual company's share price movement with Sensex have been calculated using certain statistical tools. The logic behind taking 2008 onwards as the crisis period in the present study, despite knowing the fact that the crisis surfaced in US in 2007, is that since the study is limited to Indian context only, it has been observed that the impact on India's economy became apparently visible from 2008 onwards, hence 2008 onwards has been taken as the crisis period for the present study.

The following is list of companies representing S&P BSE SENSEX along with its respective sectors, selected for empirical analysis.

Table - 1: List Of Companies

Sl. No.	Name of the Companies	Scrip Code	Respective Industries/S&P BSE Sectors
1	Bajaj Auto Ltd	532977	Automotive
2	Bharat Heavy Electricals Ltd(BHEL)	500103	PSU
3	Bharti Airtel Ltd	532454	Teck
4	Cipla Ltd	500087	Healthcare
5	Coal India Ltd	533278	Metal & Mining
6	Dr. Reddy's Laboratories Ltd	500124	Healthcare
7	GAIL (India)Ltd	532155	Oil & Gas
8	HDFC Bank Ltd	500180	Bankex
9	Hero MotoCorp Ltd	500182	Automotive
10	Hindalco Industries Ltd	500440	Metal & Mining
11	Hindustan Unilever Ltd	500696	FMCG
12	Housing Development Finance Corporation Ltd(HDFC)	500010	Consumer Finance
13	ICICI Bank Ltd	532174	Bankex
14	Infosys Ltd	500209	IT
15	ITC Ltd	500875	FMCG

Sl. No.	Name of the Companies	Scrip Code	Respective Industries/S&P BSE Sectors
16	Jindal Steel &Power Ltd	532286	Steel & Power
17	Larsen & Toubro Ltd	500510	Capital Goods
18	Mahindra & Mahindra Ltd	500520	Automotive
19	Maruti Suzuki India Ltd	532500	Automotive
20	NTPC Ltd	532555	Power
21	Oil & Natural Gas Corporation Ltd(ONGC)	500312	Oil& Gas
22	Reliance Industries Ltd	500325	Oil & Gas
23	State Bank Of India(SBI)	500112	Bankex
24	Sesa Goa(Sterlite Industries(India) Ltd[*])	500900	Metal
25	Sun Pharmaceutical Industries Ltd	524715	Healthcare
26	Tata Consultancy Service Ltd(TCS)	532540	IT
27	Tata Motors Ltd	500570	Automotive
28	Tata Power Co.Ltd	500400	Power
29	Tata Steel Ltd	500470	Steel
30	Wipro Ltd	507685	IT

[*] Sesa Goa has replaced Sterlite Industries in the Sensex from August 27, 2013

Source: www.bseindia.com

The empirical analysis results have been outlined below: The following table-2 provides an overview of the S&P BSE 30 companies that have been identified as the best, moderate and worst performers during pre-crisis period i.e. from 2005 Jan to 2007 as taken in this present study :

Table - 2: Overview of Performance

Pre Crisis Period (2005-2007)

Source: Compiled and Compiled by authors from the data collected from BSE historical equity price data archive

The key findings during the pre-crisis period are noted below:

Firstly, considering the maximum return, as the return estimating parameter on individual companies is concerned, opening, closing and weighted average share prices- the best performer during this period is Jindal Steel & Power representing S&P BSE Steel & Power sector. Next top performers are BHEL and GAIL, taking opening prices, Tata power, Dr. Reddy's Laboratory taking closing price and Tata Power along with the other above mentioned companies taking average prices respectively. Sesa Goa , Larsen & Toubro and RIL can be attributed the title of moderate performers considering opening closing and average prices, lastly worst performers are Cipla, Hero Motocorp, Infosys, Sun Pharma, ICICI Bank, HUL and Maruti Suzuki considering the return on opening price, closing and average price respectively.

Secondly, taking minimum return as performance evaluation parameter it has been found that ICICI Bank, Sun Pharma, HDFC Bank are the best performers among the others considering all the three variables : opening, closing and weighted average share price, Hindustan Unilever Limited, Jindal Steel& Power and Hero Motocorp are the next best performers. The moderate performers are Mahindra & Mahindra; Wipro considering the three variables and the Hindalco Industries, BHEL, Cipla, ITC, Sesa Goa have been identified as the worst performers.

Thirdly, considering Standard Deviation (SD) as a measure of risk, it can be said the equity performance of HUL and Sun Pharma on opening, closing and average is the best in comparison to others, followed by Hero Moto Corp, ICICI, NTPC and RIL, then the moderate performers are BHEL, Jindal Steel, Cipla and worst performer is Sterlite Industries (Sesa Goa), having the higher standard deviation, followed by ITC Ltd, Hindalco industries.

Fourthly, comparing the Coefficient of Variation (CV) as a relative measure of risk, the conclusion that has been arrived at is that the best performer among all is Jindal Steel & Power, the next best performers are HDFC Ltd , RIL, HUL and the moderate performer is Bharti Airtel and lastly the worst performers are Hindalco Industries, ITC Ltd, TCS, Wipro. Lastly, it is observed from the comparison that the Correlation Coefficient (R) of ITC Ltd. with Sensex is low during this period. Hence, it can be attributed the title of best performer, the next best performers are Dr. Reddy's Laboratory and Cipla, the moderate performers considering three variables are BHEL, GAIL, Sesa Goa and lastly the worst performers are State Bank of India (SBI), ICICI Bank, Infosys, Airtel.

Finally, to conclude from the key findings, the equity performance of Jindal Steel & Power and Hindalco Industries representing the S&P BSE Steel & Power and Metal & Mining sector are the best and the worst performer respectively during the pre crisis period as selected in the present study, considering the average return of the scrips as the return estimating parameter. Taking SD as the measure of individual company's share's risk / volatility it is observed that HUL, Sun Pharma and Hero Moto Corp from the FMCG, Healthcare and

Automotive sector and Sterlite Industries (Sesa Goa) from Metal and Mining sector are the best and the worst performers respectively.

So it is quite apparent from the above comparison and analysis that the steel and power sector performed well during the pre-crisis period, that is before the time the global financial crisis visibly started affecting India, whereas considering the risk estimating parameter it is seen that FMCG, Healthcare and the Auto sector companies has a lower standard deviation, thereby indicating lower risk compared to others. Finally, there arises a question whether the performance of these companies remained at par during the crisis as well as the post crisis period also?

The answer to this question can be given by a comparison of the individual company's pre-period performance with the crisis and post crisis period performances. It is seen that during crisis and post crisis period return of Jindal Steel & Power Company further declined and becomes negative. So, apparently it is seen that Jindal Steel & Power representing steel and power sector has not been able to maintain its equity performance at par considering the return of the scrip. Next, considering the risk factor of the scrip it is seen that it was lower in pre-period but increased during crisis period indicating high volatility and again further reduced to some extent during post period.

The best, moderate and worst performer companies during crisis period, i.e. , from 2008 to 2009 are shown in Table 3 below.

**Table 3 - Overview of Performance
Crisis Period (2008-2009)**

Source: Compiled and Compiled by authors from the data collected from BSE historical equity price data archive.

The key findings during the crisis period are mentioned below

Firstly, considering the maximum return as the return estimating parameter on individual companies on opening and closing prices it can be concluded that the best performer during this period is Larsen & Toubro Ltd. representing S&P BSE Capital Goods sector and Sterlite Industries (Sesa Goa) considering the weighted average share prices respectively. Next, best performers are Bajaj Auto Ltd., Mahindra & Mahindra, Maruti Suzuki, BHEL; RIL, Tata Motors respectively considering three variables the moderate performer are HDFC bank Ltd, Hero Motocorp, ONGC, NTPC Ltd. respectively considering the opening, closing and average price respectively and lastly worst performer is Sun Pharma, Infosys and ITC Ltd. considering the return on opening price, closing and average price respectively.

Secondly, taking minimum return as performance evaluation parameter it is seen that Cipla Ltd., Hero Motocorp and HUL are the best performers among the others considering all the three variables. The next best performers are Sun Pharma, ITC, Infosys, ICICI Bank, Hindalco respectively. Next Jindal Steel and power has been identified as the worst performer. The moderate performers are L&T, Airtel.

Thirdly, after considering average return of the BSE 30 companies it is seen that Bajaj Auto Ltd. is the best performer among all, next best are Maruti Suzuki, Dr. Reddy's Laboratory, Cipla, Maruti, Hero Moto Corp and lastly Jindal Steel and Power followed by Airtel, RIL are the worst performer among all. Next HDFC Ltd, Tata Motors, Wipro are the moderate performers.

Fourthly, considering Standard Deviation (SD) as a measure of risk, it can be said the equity performance of HUL on opening, closing and average is the best in comparison to others; next bests are Cipla, Hero moto corp, ITC Ltd, Dr. Reddy's Labroratory and lastly worst performers are Jindal Steel & Power, Sesa Goa and TCS. ICICI Bank has been identified as moderate performers.

Fifthly, comparing the Coefficient of Variation (CV) as a relative measure of risk the conclusion that has been arrived at is that the best performer among all is Hero Moto Corp, the next best performers are Bajaj Auto Ltd, Cipla Ltd. and lastly the worst performer is Jindal Steel & Power. The moderate performer is Airtel. Lastly, it is observed from the comparison that the Correlation of Coefficient (R) of Sun Pharma Ltd. with Sensex is low during this period thereby implying lesser fluctuation in prices hence it can be attributed the title of best performer, the next best performer are Dr. Reddy's Laboratory, Bajaj Auto, Hero Moto Corp, HUL respectively and lastly the worst performer is ICICI Bank, moderate performers are Maruti, ITC, GAIL Ltd.

Finally to conclude from the key findings it can be stated that equity performance of Bajaj auto Ltd and Jindal Steel & Power representing the S&P BSE Auto and Steel & Power

sector are the best and the worst respectively during the crisis period as selected in the present study, considering the average return of the scrip's as the return estimating parameter. Next, taking SD as the measure of individual share's risk / volatility it is observed that HUL, and Jindal Steel & Power from the FMCG and steel and power sector are the best and the worst performers respectively.

The best, moderate and worst performer companies during post crisis period, i.e., from 2010 to 2013 Feb are shown in Table 4 below.

TABLE - 4 : OVERVIEW OF PERFORMANCE
Post Crisis Period (2010-2013 Feb)

Parameters/ Prices	Opening price			Closing price			Average price		
	Best Performers (Top 3 to 5)	Moderate Performers (1 to 2)	Worst Performers (Bottom 3 to 5)	Best Performers (Top 3 to 5)	Moderate Performers (1 to 2)	Worst Performers (Bottom 3 to 5)	Best Performers (Top 3 to 5)	Moderate Performers (1 to 2)	Worst Performers (Bottom 3 to 5)
Max Return	Hero Moto Corp Tata Steel, ONGC ltd, Coal India Ltd	Larsen & Toubro Ltd	Dr. Reddy's Laboratory, RIL, Sunpharma.	HeroMoto Corp Infosys TCS	Coal India Ltd	HDFC BankLtd RIL, Sunpharma	HeroMoto Corp, Infosys, Tata Motors	Coal India Ltd	Wipro, RIL, Sunpharma
Min Return	NTPC Ltd Coal India Ltd ICICI Bank	ITC Ltd	Tata Power, BHEL, Sesa Goa	NTPC Ltd, Coal India Ltd, Hindalco Industries.	Mahindra& Mahindra	Tata Power, BHEL, Sesa Goa.	NTPC Ltd, Coal India Ltd, SBI.	GAIL (India) Ltd.	Tata Power, ,BHEL, Sesa Goa.
Average Return	State Bank of India(SBI), Dr. Reddy's Laboratory, Bajaj Auto Ltd	TCS	BHEL, Sesa Goa, Tata Power.	State Bank of India(SBI), Dr. Reddy's Laboratory, Bajaj Auto Ltd.	TCS	BHEL, Sesa Goa, Tata Power	State Bank of India(SBI), Dr.Reddy's Laboratory Bajaj Auto Ltd	TCS	BHEL, Sesa Goa, Tata Power
SD	SBI,NTPC Ltd Hindustan Unilever Ltd Dr. Reddy's Laboratory	Maruti Suzuki	Tata Motors, Tata Power, Sesa Goa	SBI, Dr. Reddy's Laboratory NTPC Ltd Hindustan Unilever Ltd	Bharti Airtel	Tata Motors, Tata Power, Sesa Goa	SBI,NTPC Ltd, Dr. Reddy's Laboratory Hindustan Unilever Ltd	Tata Steel	Tata Motors, Tata Power, Sesa Goa
CV	Tata Consultancy Services(TCS) Hindustan Unilever Ltd Dr. Reddy's Laboratory	Mahindra& Mahindra	HDFC Bank, RIL, GAIL	Tata Consultancy Services(TCS) Hindustan Unilever Ltd Dr. Reddy's Laboratory	Mahindra& Mahindra	Maruti Suzuki RIL, GAIL	Tata Consultancy Services(TCS), Hindustan Unilever Ltd, Dr. Reddy's Laboratory	Mahindra& Mahindra	HDFC Bank RIL, GAIL
R	Sun Pharma, ONGC Ltd, Hero Moto Corp	TCS	ICICI, RIL, SBI.	Sun Pharma, Tata Power, ONGC Ltd, Hindustan Unilever Ltd, Dr.Reddy's Laboratory	TCS	ICICI Bank, RIL, SBI	Sun Pharma, ITC, Tata Power.	TCS	ICICI Bank, RIL, SBI

Source : Computed and Compiled by authors from the data collected from BSE historical equity price data archive.

The key findings during the post-crisis period are noted below.

Firstly, considering the maximum return as the return estimating parameter on individual companies opening, closing and weighted average share prices it can be concluded that the best performer during this period is Hero Moto Corp representing S&P BSE Auto sector. Next, best performers are Tata Steel, Coal India, TCS, Tata Motors and Infosys Ltd respectively, lastly, the worst performers are Sun Pharma, Dr. Reddy's Laboratory, HDFC Ltd. and Wipro considering the return on opening price, closing and average price respectively. L&T and Coal India are the moderate performers.

Secondly, taking minimum return as performance evaluation parameter it is seen that NTPC Ltd. is the best performer among the others considering all the three variables. The next best performers are Coal India Limited, ICICI, Hindalco, State Bank of India (SBI) and lastly Tata Power Company has been identified as the worst performer. The moderate performers are ITC, Mahindra & Mahindra, GAIL (India) Ltd.

Thirdly, after considering the average return of the BSE 30 companies taking all the three prices – opening, closing and average price- it is seen that State Bank of India (SBI) is the best performer among all, next best performers are Dr. Reddy's Laboratory, TCS and Bajaj auto Ltd. considering the three variables, lastly BHEL, Sesa Goa, Tata Power are the worst performers among all.TCS has been identified as moderate performer.

Fourthly, considering Standard Deviation(SD) as a measure of risk, it can be said the equity performance of SBI on opening, closing and average is the best in comparison to others, next to this the best performer are HUL, NTPC Ltd , Dr. Reddy's Laboratory and lastly Tata Motors, Tata Power, Sesa Goa have been identified as worst performer. Maruti, Airtel, Tata Steel has been identified as moderate performers. Fifthly, comparing the Coefficient of Variation (CV) as a relative measure of risk the conclusion that has been arrived at is that the best performer among all is Tata Consultancy Services (TCS), the next best performers considering opening, closing and average price are HUL, Dr. Reddy's Laboratory and finally the worst performer is HDFC Bank, followed by RIL, GAIL, Maruti Suzuki. The moderate performer is Mahindra & Mahindra.

Lastly, it is observed from the comparison that the Correlation Coefficient (R) of Sun Pharma with Sensex is low during this period hence it can be attributed the title of best performer, the next best performers are ONGC, ITC Ltd., Tata power, Hero Moto Corp considering opening, closing and average price and the worst performer is ICICI Bank followed by SBI, RIL thereby indicating a high correlation with Sensex movement. TCS has been identified as moderate performer.

Finally, to conclude from the key findings it can be stated that equity performance of SBI and

HDFC Bank representing the S&P BSE banking sector is the best and the worst performer respectively during post crisis period as selected in the present study, considering the average return of the scrip's as the return estimating parameter. Next, taking SD as the measure of individual share's risk / volatility it is observed that SBI, NTPC Ltd. and Tata Motors from power and auto sector are the best and the worst performers respectively.

Conclusion

It is observed from the above analysis the Indian securities market was affected by the global financial crisis. The performance of some select companies, namely, Jindal Steel and Power, HDFC Bank, Cipla Ltd, BHEL, Sun Pharma, Tata Motors, GAIL (India) Ltd, ICICI Bank, NTPC Ltd, ONGC Ltd, Sesa Goa, Reliance Industries, Tata Power Co, Tata Steel Ltd, Wipro, is better in the pre-crisis period than in the post crisis period, whereas the performances of the companies viz. HUL, SBI declined further during crisis period as compared to pre crisis period. But from the comparative study it is seen that they are being able to revive its growth during post crisis period and some companies namely, Bajaj Auto Ltd, TCS have been able to maintain a consistent performance level in post crisis period in comparison to the performance of others. The IT sector which has been affected by the spillover effect of the crisis is being able to recover to some extent, whereas the performance of the banking sector companies was relatively better in the pre-crisis period than in the post-crisis period, the Healthcare and the FMCG sector also recovered to some extent.

Some companies like Jindal Steel are better performers, in pre-crisis period but its performance declined during the crisis period and are gradually recovering during post-crisis period whereas in case of Sun Pharma Ltd. it has been seen that its performance declined during crisis period but considering the risk factor the performance of the company further declined to some extent during post period. It is also seen that performance of HUL improved during post-crisis period considering the risk and return parameters. While in case of NTPC Ltd. representing the power sector, the performance of this company improved during post-crisis period as compared to that it was in pre and crisis period considering the risk parameter. Considering the risk estimating parameter it is seen that Healthcare (Dr. Reddy's Laboratory) and the Power (NTPC Ltd) sector companies has a lower standard deviation thereby indicating lower risk compared to others in post crisis period.

The results obtained from the data analysis and the comparison reveals that the performance of each of these companies has been different during different time period. To arrive at the summary of the findings and to identify the best, worst and the moderate performers during the three periods the average returns and standard deviation has been taken as the return and risk estimating parameter. The rationale behind selecting average return and standard deviation for performance measurement is that the average is a better and consistent measure for estimating the return of the scripts and standard deviation – the absolute measure of risk gives

a better picture of individual share's risk/ volatility.

Finally, it may be stated that the Indian economy was affected by the financial crunches more specifically referring to the Indian securities market in the present context. The performances of the select companies were different during the different period of time. Equity performances of the most of the companies selected in the present study declined during crisis period but most of them are regaining their performance level as before .Whereas for some companies it is seen that their pre-crisis period performances are better compared than those in post period.

However, the study is restricted to the application of risk, return and correlation as a measure of equity performance analysis but if certain other advanced econometric tools would have been used preferably it would have given a better picture. Other variables that affected share prices have not been considered in this study.

Notes and References

1. The open price is the price at which the first share was traded for the current trading day.

2. The final price at which a security is traded on a given trading day. The closing price represents the most up-to-date valuation of a security until trading commences again on the next trading day.

3. Weighted price is obtained by dividing total value of the shares by the number of shares traded/exchanged

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