

Impact of Economic Decisions on Behaviour of Bombay Stock Exchange in India

G.Sankararaman, S.Suresh, TC. Thomas

Abstract: Stock market is an important and active part of financial markets. The behaviour of Individuals as well as organizations may be impacted due to several decisions taken by the macro agencies such as Government, RBI, SEBI, etc. It has been stated that the stock market is dynamic and invisible but it will be influenced and impacted by some visible factors and decisions. The contribution of stock market to the growth process of any economy is not in doubt. The study is about the stock market behaviour and performance of the BSE Sensex and Sector index i.e., of Eight Sectors namely Automobile, Bank, Capital Goods, FMCG, Healthcare, IT, Realty and Telecom. In this study, Multivariate Analysis has been used to study the impact of economic decisions. Relevant statistical tools and techniques were applied to set up a significant association among various clarifying variables recognized through the empirical analysis bearing in mind the obtainable research studies.

The investigation portrays that economic decisions can impact the stock market movement. These factors can be used by individual investors, mutual funds and brokers to make rational and intelligent investment decisions.

Index terms: Stock Market, Economic Decisions, Investment Behaviour, Multivariate Analysis

I. INTRODUCTION

Among many things unnoticed, Stock Markets are significant. Every so often, it climbs or crashes. Suddenly, it's the leading news story. The stock market is one of the gauges of the economy. It impacts the decision on money being deposited back into the economy and how much confidence consumers have in their stable income. The impact in one other market of the foreign market can be seen as a vibration or shock in the country's market. The market may also be affected by various socio-cultural, economic, political and legal issues in the country and also by the change in policy decisions of the Government. In order to assess the above impact the study has been conducted by the researchers in one of the leading stock exchanges, the Bombay Stock Exchange.

II. OBJECTIVES OF THE STUDY

A. Primary:-

To study Impact of Economic Decisions on Behaviour of Bombay Stock Exchange in India

B. Secondary:-

- I. To study the performance of BSE when major economic decisions are taken.
- II. To study the factors which led to the impact

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- III. To study the plummet and growth of Indian capital market.

To study the impact of sector indices on the BSE.

III. RESEARCH METHODOLOGY

The type of research design used in the study is Quantitative and Analytical Research. The data collected for the study is Secondary in nature; data obtained from periodicals, journals & websites. BSE Sensex contains top companies chosen on the basis of certain parameters set by S&P for the volatility level of Indian capital market. The data was taken from 2014- 2018 daily closing price of the BSE index. The tools used for analysis are

- Multiple Correlation
- Multiple Regression

IV. HYPOTHESIS

- a. Union Budgets have significant impact on Sectoral indices.
- b. Demonetization has significant impact on Sectoral indices.
- c. Introduction of GST has significant impact on Sectoral indices.

V. REVIEW OF LITERATURE

1. In their paper explained that the influence of socio-cultural aspects on financial returns. The authors have attempted to establish the relationship between investor beliefs and Rahu Kala through statistical measures about the share market behaviour and in connection to the Rahu Kala period. The data taken for this study were from BSE. It has been concluded by the authors that relying on Rahu Kala has a significant influence on share market behaviour. The paper also has a detailed discussion on implications of this [14].

2. In their paper have examined that the belief and perception on astrology while making investment decisions particularly on Ragu Kalam, Yama Kantam, Ashtami and Navami. The authors have used primary data study for this purpose. It was also concluded that people believe in astrological aspects when spending money for investment purposes [12], [13].

3. Kang, Jiang, Lee, and Yoon (2010) conducted a study to trace the weather effect on returns and volatility in the Shanghai stock markets using daily weather data for temperature, humidity, and sunshine duration in [7]. GARCH model for sample return series was used in the study. It has been identified the existence of effect of weather in the one set of share returns and not in other set of share returns and it strongly effects volatility of both the shares.

4. Examined the existence of irregular behavior in the Bombay Stock Exchange (BSE) before and after 9/11 incident[1]. Authors traced that market behaves positively on Mondays and negatively on Fridays before 9/11 incident. EGARCH models used in the study helped in revealing the irregular market behaviour to the news in BSE. Moreover.

5. Undertook the study to evaluate instability spread between the Japanese share markets and FOREX markets. The authors have used Daily data for the period 1994-2007. It was found Japanese FOREX Market report for instability spread in eight of the ten sectors of industry measured. BEKK-GARCH model was used in the study[17].

6. Research of attempted to inspect and forecast best circumstance of the major factors influencing BSE in India[2]. The authors carefully used certain important determinants like Oil, Gold, CRR, Inflation, Call Money Rate, USD Price, F D I, Foreign Portfolio Investment and Forex. Multicollinearity problem were attempted to establish among different macroeconomic variables and possible elimination was also tried. It has been established that USD Price along with Forex reserves and Inflation factors are significantly affecting BSE Sensex.

7. Presents a review of Capital Market of India and its arrangement. The implementation of capital market reforms has helped to perform Indian capital market on par with international capital markets[5]. The appearance of Debt market from Private Corporate is also considered a right innovation substituting the banking which caters corporate finance. But, the market has seen its most horrible time with the current universal financial crisis that originated from the US sub-prime mortgage market and extends over to the entire world as a contamination. Indian capital market has recorded a slow performance.

8. Observed various communications of central bank which affected the level and instability of interest rates[4]. News announcements were included to measure the instability. TGARCH model was used in the research and included the news events in regression analysis.

9. Has measured the impact of index futures from April 1995 to December 2006 in the Indian stock market[10]. They have divided study period in two parts. They are before and after derivatives periods. The proportional analysis of before and after derivatives period recommends that the instability of the CNX Nifty has gone up after the implementation of futures index.

10. Traced the finance and consumer behaviour literature. In that investors' investment decisions are influenced by their psychological aspects[11]. The researchers have used survey model. They found that investor's psychological aspects are affecting the delay in decision of purchase of investment alternatives. It's also evident that of investors' constant movement from reasonableness as posited by behavioral finance.

11. Measured the unpredictability of stock market of the Turkey. The researchers have used the interest rate and the foreign exchange market data from Jan. 2, 2002 to Feb. 4, 2014[3]. GARCH volatility models were in use in the study. It has been found that it is more appropriate to use, TGARCH and CGARCH models to measure the unpredictability of stock market behaviours.

12. In their research work attempted to know climatic conditions effect on the economic behaviors of retail investors participating in BIST from the years 2009 to 2011

period. It was identified that the level of cloudiness and hotness having influence on the on investor behaviors. The number of bright days, the number of dark days, and daylight duration has no impact on behaviour of retail investors[16].

13. Have examined impact on saving behaviour retail investors in Chennai based on their perception on Financial Liberalization. The major roles are played by the institutions like RBI and SEBI in India in encouraging the investments in various sectors. Each every individual must possess knowledge about various investment aspects to have quality investments. Financial liberalisation which is the result of economic liberalization provides for knowledge and way for new investment alternatives. The research was conducted to identify the perception and consciousness of investors about financial liberalisation in Chennai city.

14. In their research investigated the course of causation between the instabilities of Forex and stock market prices in India[9]. Forex and Stock market indices from January 1992 to February 2013, were used for the study. They have used Phillips Perron (PP) unit root test to measure the stationarity. GARCH model was also used on the variables to calculate the instability. Granger causality analysis. The results of Granger causality was also used in the study to test show a bidirectional relationship between the exchange rate unpredictability and the unevenness of stock market prices in India.

15. Explain that political factors can influence stock market volatility because political uncertainty can cause businesses to delay hiring, firing, and ultimately investments since part of "gaining the system" in the stock market is based on anticipating changes. There may also a consumer impact since they may be more frugal during periods of heightened uncertainty[15].

VI. RESULTS AND DISCUSSION

<Table 1>

During the budget announcement made in the year 2014, the sectors which have significantly influenced the behaviour of Indian stock market were banking, capital goods, FMCG, Information Technology (IT), Reality and telecom. It could be further observed that automobile and health care sectors have an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R^2 (0.918) revealed that the 91.80 per cent of the sectors affect the stock market significantly. It is inferred from the results of F test (46.53, $p=0.000$) that overall fitness of the model is statistically significant at 5 percent.

<Table 2>

During the budget announcement made in the year 2015, the sectors which have significantly influenced the behaviour of Indian stock market were banking, capital goods, FMCG, Information Technology (IT), Reality, healthcare and telecom. It could be further observed that automobile sector has an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R^2

(0.9550)revealed that the 95.50 of the sectors affect the stock market significantly It is inferred from the results of F test (82.36, p=0.000) that overall fitness of the model is statistically significant at 5 per cent .

< Table 3>

During the budget announcement made in the year 2016, the sectors which have significantly influenced the behaviour of Indian stock market were automobile, banking, capital goods, FMCG, Information Technology (IT), and healthcare. It could be further observed that reality and telecom sectors have an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R² (0.980)revealed that the 98.50 per cent of of the sectors affect the stock market significantly It is inferred from the results of F test (196.29, p=0.000) that overall fitness of the model is statistically significant at 5 per cent.

<Table 4>

During the budget announcement made in the year 2017, the sectors which have significantly influenced the behaviour of Indian stock market were automobile, banking, FMCG, and Information Technology (IT). It could be further observed that capital goods, healthcare, reality and telecom sectors have an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R² (0.892)revealed that the 89.20 per cent of the sectors affect the stock market significantly It is inferred from the results of F test (31.24, p=0.000) that overall fitness of the model is statistically significant at 5 per cent .

<Table 5>

During the budget announcement made in the year 2018, the sectors which have significantly influenced the behaviour of Indian stock market were automobile, banking, capital goods, FMCG, and Information Technology (IT). It could be further observed that reality, healthcare and telecom sectors have an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R² (0.9555)revealed that the 95.55 per cent of the sectors affect the stock market significantly It is inferred from the results of F test (83.33, p=0.000) that overall fitness of the model is statistically significant at 5 per cent .

<Table 6>

During the demonetisation announcement made in the year 2016, the sectors which have significantly influenced the behaviour of Indian stock market were banking, capital goods, FMCG, and Information Technology (IT). It could be further observed that automobile, reality, healthcare and telecom have an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R² (0.9007)revealed that the 90.07 per cent of the sectors affect the stock market significantly It is inferred from the results of F test (36.30, p=0.000) that overall fitness of the model is statistically significant at 5 per cent.

< Table 7>

During the GST announcement made in the year 2017, the sectors which have significantly influenced the behaviour of

Indian stock market were automobile, banking, FMCG, Information Technology (IT), and healthcare. It could be further observed that capital goods, reality and telecom sectors have an insignificant explanatory power in influencing the stock market behaviour. It is also noticed from the values of VIF that the explanatory variables were not auto correlated with each other. The value of R² (0.9530)revealed that the 95.30 per cent of the sectors affect the stock market significantly It is inferred from the results of F test (133.08, p=0.000) that overall fitness of the model is statistically significant at 5 per cent

VII. SUGGESTIONS AND RECOMMENDATIONS

The outcome of this research leads to suggest that the stock prices of sectors like banking, Capital goods, FMCG and IT are significantly influenced during budget announcements. While making investments in these sectors investors have to take this factor into consideration. This will make the investor to achieve better risk adjusted return or they can reduce the losses. Investors, particularly retail investors, should be cautious while investing during the period of budget or any other decisions related to economy and finance.

During these periods volatility in the market and possibility of erosion in the capital are very high. Demonetization is another major economic decision taken by the Government. The announcement of demonetization caused a significant impact on stock prices in the sectors namely auto, banking, FMCG, IT and healthcare. This indicates that during such period investors should wait for the clarity in the policy decisions of Government, regulatory authorities and trend in the market. In these situations there is a possibility of knee jerk reaction in the stock market.

Another important economic decision taken after demonetization is the introduction of GST. GST is a major policy decision taken by Government in the indirect tax structure. Major sectors in the economy got affected because of this policy decision. During this period there is significant influence on the stock prices of auto, banking, FMCG, healthcare and IT. Therefore investors should give utmost importance to the understanding of policy decisions and its impact on stock prices.

VIII. CONCLUSION

In this paper, an attempt has been made to study the impact of economic decisions on BSE through two levels of index i.e, BSE Sensex and BSE Sectoral indices. The statistical analysis is evaluated by taking multiple correlations and regression to find the measure of impact and the dependency level. It has been found that sectors such as Automobile, Banking, FMCG, and Information Technology had greatest impact due to the economic decisions taken by the government while the other four sectors had lesser impact. Such impact may be due to the announcements in the budget and influence of such economic decisions on those sectors.

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Tables

Table 1

Variable	Coefficient	t test	Sig Value	VIF
C	0.000	0.507	0.616	NA
AUTO	0.074	1.280	0.210	2.426
BANKEK	0.301	5.669	0.000**	2.540
CAPITAL_GOODS	0.085	2.331	0.026**	2.337
FMCG	0.194	3.931	0.000**	1.156
HEALTHCARE	0.023	0.428	0.671	1.351
IT	0.141	3.400	0.002**	1.353
REALITY	0.055	2.452	0.020**	2.254

TELECOM	0.084	2.122	0.041**	1.783
R2	0.918			
Adjusted R2	0.898			
F test	46.53			
Sig Value	0.000**			
Durbin – Watson stat	1.807			
Source: Author's own calculation ** statistically significant at 5%				

Table 2

Variable	Coefficient	t test	Sig Value	VIF
C	-0.001	-1.723	0.095	NA
AUTO	0.106	1.901	0.067	3.353627
BANKEK	0.193	3.876	0.001**	4.401462
CAPITAL_GOODS	0.080	2.426	0.021**	2.496102
FMCG	0.131	3.850	0.001**	1.579650
HEALTHCARE	0.114	3.089	0.004**	1.581940
IT	0.315	7.460	0.000**	1.444810
REALITY	0.078	2.426	0.021**	1.942173
TELECOM	0.054	2.639	0.013**	1.207714
R2	0.9550			
Adjusted R2	0.9434			
F test	82.36			
Sig Value	0.000**			
Durbin – Watson stat	1.849			
Source: Author's own calculation Note : ** statistically significant at 5%				

Table 3

Variable	Coefficient	t test	Sig Value	VIF
C	0.000	0.071	0.944	NA
AUTO	0.135	2.375	0.024**	7.465049
BANKEK	0.149	3.142	0.004**	7.033525
CAPITAL_GOODS	0.071	2.069	0.047**	4.820790
FMCG	0.175	3.858	0.001**	3.409640
HEALTHCARE	0.139	4.192	0.000**	2.196976
IT	0.223	5.229	0.000**	3.399496
REALITY	0.044	1.144	0.261	8.089501
TELECOM	0.021	0.687	0.497	1.980843
R2	0.980			
Adjusted R2	0.975			
F test	196.29			
Sig Value	0.000**			
Durbin – Watson stat	2.167			
Source: Author's own calculation Note : ** statistically significant at 5%				

Table 4

Variable	Coefficient	t test	Sig Value	VIF
C	0.000	0.748	0.461	NA
AUTO	0.214	4.006	0.000**	3.251307
BANKEX	0.307	5.363	0.000**	2.722921
CAPITAL_GOODS	0.017	0.251	0.804	2.734990
FMCG	0.146	2.758	0.010**	1.506711
HEALTHCARE	0.050	1.135	0.266	1.454092
IT	0.107	3.423	0.002**	1.305779
REALITY	-0.048	-1.092	0.284	3.278758
TELECOM	0.030	1.257	0.219	1.194683
R2	0.892			
Adjusted R2	0.864			
F test	31.24			
Sig Value	0.000**			
Durbin – Watson stat	1.969			
Source: Author's own calculation Note : ** statistically significant at 5%				

Sig Value	0.000**
Durbin – Watson stat	2.526
Source: Author's own calculation Note: ** statistically significant at 5%	

Table 5

Variable	Coefficient	t test	Sig Value	VIF
C	0.000	0.921	0.364	NA
AUTO	0.148	3.200	0.003**	2.562688
BANKEX	0.436	10.755	0.000**	2.144387
CAPITAL_GOODS	0.105	2.984	0.006**	2.341272
FMCG	0.144	2.439	0.021**	1.831488
HEALTHCARE	-0.035	-0.808	0.425	2.583245
IT	0.129	4.418	0.000**	1.337842
REALITY	0.002	0.099	0.922	2.337513
TELECOM	-0.007	-0.300	0.766	1.522509
R2	0.9555			
Adjusted R2	0.9441			
F test	83.33			
Sig Value	0.000**			
Durbin – Watson stat	1.965			
Source : Author's own calculation Note : ** statistically significant at 5%				

Table 6

Variable	Coefficient	t test	Sig Value	VIF
C	0.000	1.497	0.144	NA
AUTO	0.078	1.289	0.207	1.944797
BANKEX	0.298	4.114	0.000**	2.618072
CAPITAL_GOODS	0.157	2.272	0.030**	3.340095
FMCG	0.174	8.780	0.000**	1.135858
HEALTHCARE	0.015	0.441	0.662	1.264820
IT	0.105	3.704	0.001**	1.285077
REALITY	-0.019	-0.618	0.541	1.677923
TELECOM	0.023	0.794	0.433	1.672541
R2	0.9007			
Adjusted R2	0.875			
F test	36.305			
Sig Value	0.000**			
Durbin – Watson stat	2.203			
Source : Author's own calculation Note : ** statistically significant at 5%				

Table 7

Variable	Coefficient	t test	Sig Value	VIF
C	0.000	0.037	0.971	NA
AUTO	0.148	5.117	0.000**	2.590615
BANKEX	0.263	7.793	0.000**	2.566253
CAPITAL_GOODS	0.091	1.874	0.067	2.959830
FMCG	0.153	3.876	0.000**	2.619498
HEALTHCARE	0.077	2.625	0.011**	1.929904
IT	0.185	6.594	0.000**	1.521258
REALITY	-0.020	-1.108	0.273	2.279067
TELECOM	0.043	1.778	0.081	1.462261
R2	0.953			
Adjusted R2	0.946			
F test	133.08			