

## IMPACT OF UNION BUDGET ON INDIAN STOCK MARKET WITH REFERENCE TO BSE SENSEX & NSE NIFTY

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### ABSTRACT

*The Stock Market is said to act as a barometer of any country's economic health. Investors who invest their money in stock market always keen to know about the various economic variables which are going to take place in the near future. Union Budget is the most watched activity waited by all sectors. This paper examines the impact of Union Budget on BSE's Sensex and NSE's Nifty Index. The impact is measured in terms of daily average returns and volatility over short term, medium term and long term period in pre and post budget period. The data has been collected for five budget periods from 2015 to 2019. The statistical tools Paired T-test is conducted on average returns over the study period i.e. 3, 15 and 30 days in pre and post budget period. With regard to volatility the result indicates the moderate period tends to be more volatile than short and long periods. In this study main focus of researchers is on return and volatility impact with different time period.*

**KEYWORDS:** *Union Budget, Sensex, Nifty, Return, Volatility, Stock Market.*

### Introduction

Bombay Stock Exchange (BSE) is the oldest stock exchanges not only in India but also in Asia. It is a premier stock exchange in Asia. More than 5000 companies are listed on BSE. Global Investors always keen to seek India for their investment. The BSE's overall performance of stocks is measured by the Sensex, an index of 30 of the BSE's largest Stocks covered 12 sectors. The NSE was the first dematerialized electronic exchange in India. It was the first exchange in the country to provide fully automated screen based electronic trading system. More than 1600 companies are listed on NSE. Nifty is the flag ship/bench mark index on the National Stock Exchange of India. (NSE). This index tracks the behavior of a portfolio of blue chip companies, the largest and liquid Indian securities.

The stock market generally reflects the economic conditions of any country. The movement of stock market price is unpredictable. Volatility of stock measures the price changes in the market price take place over a period at time. Such Macro Economic factors are responsible for the movement in share prices like govt. budget, interest rate, inflation, election, trading and settlement system etc. Hence the Union Budget has significant impact on financial market of the country. It is seen as must watched event formulating various economic policies of different sectors in India. Union budget reflects govt. fiscal policy. According to the Article 112 of constitutions, the Union Budget is an annual financial statement showing estimated revenues and expenditures of the govt. during a year. (1<sup>st</sup> April to 31<sup>st</sup> March). By convention the budget to presented in the parliament on the last working day of February. It contains proposal like change in rates of tax for different commodities and services, change in monetary policy, industrial policy, trade policy and other financial sectors, which may have a favourable or in favourable effect on Indian Stock Market.

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The present study analyses the impact of Union Budget on the stock market Index represented by BSE Sensex and NSE Nifty in terms of average returns and volatility. In this paper researchers have studied prior to and subsequent to budget day impact on Sensex and Nifty. However, Sensex and Nifty do not only depends on Union Budget, other Macro Economic variables also impact on stock prices. This study will help investors who want to invest cautiously in stock market. The study enables them to understand volatility in the stock market due to announcement of budget in a particular financial year. This paper has been divided into five parts. First part introduces the topic, second part reviews the literature, third part discusses methodology of the study, section four analyses the statistical test and section fifth concludes the paper.

### Review of Literature

Various researchers have been studied impact of the declaration of budget on Stock Market. Some of them are discussed here:

- **J. Gayothiri & L. Ganesa Moorthy (2018)** examined the impact of Union Budget 2018 on BSE sensex. They found that there was no significant impact of the event of the announcement of Union Budget on return on Sensex companies. They used events study taking data prior and subsequent to the budget.
- **Dr. Divya Verma, Ms. Neh Kushwaha and Ms. Vinita Ashok (2015)** investigated impact of Union Budget on NSE Nifty. The result indicated that the maximum impact of budget is seen in short term. Then it gradually decreases in medium term and diminishes in long term.
- **Saraswat and Banga (2012)** examined the impact of Union Budget from 1995 to 2010 stock market as represented by Nifty. The result proved that budgets had the maximum impact only on short time of period, moderate impact on medium time and no impact on long time.
- **Varadhrayan and Vikraman (2011)** observed volatility of four major indices of Indian stock market and the effect of Union Budget on volatility from 2001-2011. They found that return of the indices post budget is negative when compared to pre-budget. They also stated that Sensex and BSE 100 have higher standard deviation as compared to Nifty.
- **Singhvi (2014)** examined the impact of Union Budget on NSE Nifty in terms of returns taking 3, 15 and 30 trading days before and after budget day. She found that there is no significant impact of union budget on the average returns of Nifty in short term, medium term and long term period.
- **Gurucharan Singh and Salony Bansal (2010)** investigated in the impact of annual budget on India Stock Market. The results indicates that the budget have the maximum impact on short time compared to long period.
- **Leon Kohan (2008)** analyzed that the effects of interest rates on stock market volatility in Korea using weekly returns on KOSPI 200 and NCD 91. The result showed that interest rate had a strong positive power for returns.

### Objectives of the Study

Main objective of this study is to analyze the impact of budget on Indian Stock Market BSE Sensex and NSE Nifty. The sub objectives are:

- To analyze the effect of announcement of budget on Indian Stock Market BSE Sensex & NSE Nifty in the pre and post budget period.
- To study and compare the volatility of daily returns in the stock market in CNX Nifty and BSE Sensex.

### Hypotheses

**H<sub>0</sub>:** There is no significant impact of Union Budget on BSE Sensex and NSE Nifty.

**H<sub>1</sub>:** There is no significant difference in the volatility between BSE Sensex and NSE Nifty

### Methodology

The study is empirical in nature. It tries to study the impact of Union Budget over stock prices or not. For this purpose researchers have used Sensex and Nifty as proxy of the stock market because both are the most popular indices in Indian Stock Market. Sensex was introduced by BSE (Bombay Stock Exchange) on 1<sup>st</sup> Jan. 1986. It comprises of 30 stocks that are also known as BSE 30. The term Nifty was

originated from two words i.e. National and Fifty. Nifty is an index that is a part of NSE (National Stock Exchange). It consists of 50 heavyweight stocks from various sectors. Both indices measure the performance and sentiments of different sectors of the economy. The data has been collected over a period of 5 years starting from 2015 to 2019. This period includes total of 5 budgets (including 1 interim) being presented by Finance Minister of respective period in the Parliament (Shown in Appendix 1). Total of 60 trading days except Sunday and public holidays before and after the budget has been considered to study the impact of budget (Shown in Appendix 2). The time periods are divided into three parts short term (3 days), Medium Term (15 days) and long term (30 days) before and after declaration of the Union Budget. The secondary data have been analyzed using statistical tools. The data has been collected from the respective websites of BSE, NSE and ..... The published literature available in form of books, journals, newspapers have been used to compile the stud

#### Period of Study

Pre	Pre	Pre	Budget	Post	Post	Post
30 days (X3)	15 days (X2)	3 days (X1)	Day End (Z)	3 days (Y1)	15 days (Y2)	30 days (Y3)

The statistical data have been analyzed using the following statistical tools:

- The logarithmic daily returns have been found by researchers over study period.
- The average returns in pre and post budget period, during before and after 3, 15 and 30 days are calculated.
- The return is calculated using following formula.  

$$R_t = \log(p_t) - \log(p_{t-1}) * 100$$
 Where  $R_t$  = Market Return at the period  $t$   
 $P_t$  = Closing Price of index at day  $t$   
 $P_{t-1}$  = Closing Price of index at day  $t-1$   
 Log = Natural log  
 Here,  $X_1$  and  $Y_1$  are two same time periods.
- After that, statistical paired T-test have been applied on average returns of Sensex and Nifty.

#### Analysis and Discussion

Table 1 shows the daily average return and budget day returns of Sensex during pre and post trading days around the budget day. The estimates indicate that an individual budget has maximum impact positive in the year of 2016, 2017 and 2019 and negative in year of 2015 and 2018 in the short term (3 days post) which decreases in medium term and gradually reduces in the long term compare to pre-budget.

**Table 1: Average Returns of Sensex**

Year	X3	X2	X1	Z	Y1	Y2	Y3
2015	0.1550	-0.0782	0.3572	0.2096	-0.0847	-0.0027	-0.1243
2016	-0.0333	-0.6410	-0.1321	-0.2866	1.0453	0.0735	0.1661
2017	0.0851	0.4557	-0.0152	0.7561	0.2177	-0.0019	0.0675
2018	0.1141	-0.0732	0.0983	-0.0705	-0.8674	0.1342	0.0261
2019 (interim)	-0.0952	-0.2817	0.3631	0.2541	0.2788	-0.2456	0.2463

Source: Secondary Data

**Table 2: Average Returns of Nifty**

Year	X3	X2	X1	Z	Y1	Y2	Y3
2015	0.5310	-0.1088	0.4111	0.2802	-0.0448	-0.0140	-0.1284
2016	-0.0389	-0.6758	-0.0957	-0.2646	1.0314	0.0582	0.1814
2017	0.0792	0.5626	-0.0835	0.7797	0.1932	-0.0345	0.0456
2018	0.0547	-0.0418	0.0756	-0.0425	-0.8564	0.1808	-0.0273
2019(interim)	-0.0981	-0.2946	0.3431	0.2507	0.2899	0.0172	0.2443

Source: Secondary Data

Table 2 represents the average daily returns of Nifty over the study period. The figures indicates that in short term post budget there are three positive returns in 2016, 2017 and 2019 and for pre-budget year 2015, 2018 and 2019 (interim) show positive returns. In medium term there are three positive returns for post period compared to pre period with four negative returns. In long term budget has no significant impact on prices.

**Budget Day Effect on Sensex****Table 3: Paired T test (2 tail) Sig. Values**

X3 & Z	X2 & Z	X1 & Z	Y1 & Z	Y2 & Z	Y3 & Z
0.5002	0.0259	0.8449	0.8905	0.4360	0.6463
> 0.05 accept HO	<0.05 not accept HO	> 0.05 accept HO	> 0.05 accept HO	> 0.05 accept HO	> 0.05 accept HO

From The table 4, it was seen that the significance values are 0.5002 and 0.63463 which was greater than 0.05 (chosen value) respectively, therefore we accept the null hypothesis that there is no significant impact of Union Budget on Sensex for long term period before and after budget. It was seen that the significance values is **0.0259** which is less than 0.05 (chosen value), therefore we did not accept the null hypothesis that there is significant impact of Union Budget on Sensex for moderate term period before budget while after budget it was 0.4360 which is greater than 0.05 (chosen value) ,therefore we accept the null hypothesis that there is no significant impact of Union Budget on Sensex for moderate term period after budget. It was seen that the significance values are 0.8449 and 0.8905 which was greater than 0.05 (chosen value) respectively, therefore we accept the null hypothesis that there is no significant impact of Union Budget on Sensex for short term period before and after budget.

**Budget Day Effect on NIFTY****Table 4: Paired T test (2 tail) sig. Values**

X3 & Z	X2 & Z	X1 & Z	Y1 & Z	Y2 & Z	Y3 & Z
<b>0.6356</b>	0.0294	0.7402	0.8440	0.4788	0.5320
> 0.05 accept HO	< 0.05 not accept HO	> 0.05 accept HO	> 0.05 accept HO	> 0.05 accept HO	> 0.05 accept HO

From The table 4, it was seen that the significance values are 0.6356 and 0.5320 which was greater than 0.05 (chosen value) respectively, therefore we accept null hypothesis that there is no significant impact of Union Budget on Nifty for long term period before and after budget. It was seen that the significance values is **0.0294** which is less than 0.05 (chosen value), therefore we did not accept null hypothesis that there is **significant impact of Union Budget on Nifty for moderate term period before budget** while after budget it was 0.4788 which is greater than 0.05 (chosen value), therefore we accept null hypothesis that there is no significant impact of Union Budget on Nifty for moderate term period after budget. It was seen that the significance values are 0.7402 and 0.8440 which was greater than 0.05 (chosen value) respectively, therefore we accept null hypothesis that there is no significant impact of Union Budget on Nifty for short term period before and after budget.

**Impact of Budgets on SENSEX and NIFTY****Table 5: Paired T test (2 tail) sig. Values**

Period	Sensex	H0	Nifty	H0
X1 & Y1	0.9659	Accepted	0.9839	Accepted
X2 & Y2	0.5724	Accepted	0.5173	Accepted
X3 & Y3	0.7887	Accepted	0.8185	Accepted

From The table 5, it was seen that the significance values are 0.9669 and 0.09839 which was greater than 0.05 (chosen value) respectively, therefore we accept null hypothesis that there is no significant impact of Union Budget on Nifty for short term period for Sensex and Nifty. It was seen that the significance values are 05724 and 0.5173 which was greater than 0.05 (chosen value) respectively, therefore we accept null hypothesis that there is no significant impact of Union Budget on Nifty for moderate term period for Sensex and Nifty. it was seen that the significance values are 0.7887 and 0.8185 which was greater than 0.05 (chosen value) respectively, therefore we accept null hypothesis that there is no significant impact of Union Budget on Nifty for long term period for Sensex and nifty.

**Conclusion**

The study measured the impact of union budget on stock market index. Researchers have found that volatility does not generally increase in short term pre and post budget situation. The moderate term period before budget tends to be more volatile as compared to short and long periods. After using paired t test significant impact of Union Budget on Sensex and Nifty for moderate term period before budget while there is no significant impact of announcing budget for pre and post budget on Sensex and

Nifty. It was seen that budgets have affected only for moderate time of period so far as return is concerned. When volatility and return take together, the budget has impact on return than volatility in moderate period. Generally there are negative sentiments attached to the budgets so investors usually postpone buying decisions before budget is announced. Investors invest more cautiously around the budget day because volatility is high in short term during the budget day event. Government and regulatory bodies monitor the market movements when more volatile and taking corrective measures. Union budget is only one factor which may have impact over the stock market, there are many other factors which can be carried out to see trend of market. Further research can be carried out on by taking various other sectorial indices like BSE 100, BSE 200, and Nifty 100 etc.

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#### Appendix

##### List of Budgets Covered

Sr. No.	Date	Presenters
1	28-Feb-15	Arun Jaitely's budget
2	29-Feb-16	Arun Jaitely's budget
3	1-Feb-17	Arun Jaitely's budget
4	1-Feb-18	Arun Jaitely's budget
5	1-Feb-19	Piyush Goyal's budget( Interim)

