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ARTICLE

Interrelation between the Institutional Investors and the Union Budget in the Indian Stock Market

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Abstract

The key purpose of this study is to gauge the effect of yearly union budgets spanning from 2010 to 2021 by observing yields and volatility in the Indian bourse. Overall, 12 union budgets are considered in the Indian scenario. Further, the present work strives to relate the market returns with the investment activities adopted by foreign institutional investors (FII) and domestic institutional investors (DII). The event, i.e., the proclamation of the budget happens on February 1 every year, and therefore 60 trading days which are sub-divided into 30 days before the budget and 30 days after the budget has been analyzed in the study. Moreover, the event window of 60 days has been bifurcated into a period of pre-and post-3 days, pre-and post- 15 days, and pre-and post- 30 days around the budget. Paired samples T-statistic and F-test have been used in the current study. The results suggest that the medium-term returns are significantly influenced by union budgets. The volatility is greatest in the short-term period after the budget proclamation and it reduces with the increasing time. One startling thing to observe is that falling returns and rising volatility in the short-term period post-budget are due to the selling activities of foreign investors. It is recommended to hold the stocks in the post-budget short-term period irrespective of the falling returns till the long-term to book profits.

Keywords: Budget, foreign investors, domestic investors, stock returns, volatility.

1 Introduction

A country's economic growth indicators are highly influenced by the economic policy changes introduced by the government in the Union Budget. A Budget determines the goals which a country is set to achieve in the coming years. Stock market performance is intertwined with the major events happening in a nation (Sabnavis, 2005). Thus, stock indices act as a barometer for measuring the efficacy of the proposed budget (Agrawal, 2020). An economy requires an impactful and dynamic budget to let the recuperation go. The budget is announced every year on February 1 which erupts the waves of sentiments among investors and thereby dictates the security market indices (Ghosh, 2020).

Investors' perceptions play a major role in deciphering the policy changes which ultimately impact the performance of the Indian securities market. It is usually witnessed that the investors act diffidently in estimating the provisions to be introduced by the government in the Budget which brings an element of instability to the Indian bourses (Babu and Venkateswarlu, 2013; Gakhar et al., 2015) . Investors holding stocks from diversified sectors expect good news and react accordingly. This makes the capital market a little sensitive and volatile. In the previous studies also, it is found that stock

indices are highly volatile surrounding the budget day which ratifies the fact that investors continuously predict the policy changes in a confused state of mind (Gakhar et al., 2015; Kaur, 2004).

Two major types of investors i.e., foreign institutional investors (FIIs) and domestic institutional investors (DIIs) are largely accountable for the movement in the stock market index (Sehgal and Tripathi, 2009). Therefore, it is important to decipher the movement of foreign and domestic flows around the budget announcement. This will give a fair idea of how the budget is interpreted by different institutional investors. Generally, foreign investors are associated with short-termism and are known for booking profits and destabilizing the Indian market. Whereas, domestic investors are concerned with investing in the securities market of India for the long term (Bhanumurthy and Singh, 2013; Chauhan and Chaklader, 2020). Therefore, it is expected that the Budget announcement will impact the institutional flows differently.

With the backdrop of the importance of the Union Budget in the movement of stock yields, the present research work focuses to gauge the impact of the budget on returns and volatility. Also, the changes in the returns are analyzed and associated with the movement of institutional investor flows around the proclamation of the union budget. This is a unique idea as past studies have analyzed the pattern of returns and volatility prevailing in the market in various defined sub-periods but this study correlates the foreign and domestic flows with the budget announcement during the past 12 years. Further, a comparative investigation in the context of returns around the twelve-year budgets, i.e., from Budget 2010- 2021 has been considered in the current study.

2 Review of Literature

In the recent past, the investors' sentiments contribute to the stock market performance andthus, plays a vital role. A keen interest among the researchers persists in exploring the aftermath of union budget announcements on the stock market performance.

2.1 Investor sentiments around budget announcements

Kaur (2004) found the budget as a distinctive factor in causing volatility in the capital market of India. She found that February is the most volatile month as compared to April and March. (Sabnavis, 2005) found that returns turn negative after the announcement of the budget contributing to the fact that the budget significantly impacts the stock market performance. (Gupt and Kundu, 2006) observed that the budget severely impacts the post-budget returns in the short-term period when juxtaposed to the medium and long-term periods. They concluded that volatility diminishes with the increasing period.(Gakhar et al., 2015) have also found the same results as that Gupta and Kundu. They concluded that careful investment decisions should be made by the investors before investing around the budget period.

Vandhanjan and Vikkraman (2011) have analyzed that volatility is higher in the post-budget period than in the pre-budget period. This implies that negative returns are observed in the post-budget period.(Kutchu, 1988) has observed that if investors discern the information available in the market correctly then they can earn higher returns than the normal returns in the market. Further, he is unsure that budget impacts the stock market in a complete sense. Therefore, he restricts the idea of the impact of budget on some specific companies only. (Babu and Venkateswarlu, 2013) have analyzed the effect of the fiscal budget on the market returns and observed that the impact may survive for only up to 15 days post-budget and hence, the investors must be swift in switching between the sectors.

On the contrary, some studies show that the union budget does not impact the Indian stock market performance. Thomas and Shah (2002); Vandhanjan and Vikkraman (2011) support the view that Indian investors are rational which can be ratified by the fact that no overvaluation or undervaluation is witnessed in the stock market before or immediately after the budget announcement.(Singhvi, 2014) has taken a total of 21 budget periods in her study spanning from 1996 to 2013. She further sub-divided the event window into three different time horizons, the pre-and post-announcement of the budget. She found an insignificant effect of the budget on the benchmark index. To put it differently, the performance of the stock market does not count budget announcements as one of its factors in causing volatility. Many researchers have analyzed the impact of political influence (Yang et al., 2014), government change over (Cutler et al., 1989), policy announcements(?Boutchkova et al., 2012), political catastrophes (Bittlingmayer, 1880–1940; Shelor et al., 1990) , and general elections (Hensel and Ziemba, 1995; Forester and Schmitz, 1953; Cahan et al., 2005; Booth and Booth, 2003) on the stock market returns.

All the above studies focus on understanding the changes in returns and volatility around the budget announcement during differently defined sub-periods. Some studies conclude that the union budget impacts the Indian stock market while other studies conclude that the union budget does not impact the Indian bourse. However, no study tries to build on the fact which type of investor sentiment alters the returns and volatility.

Therefore, the present study collates the change in returns and volatility due to the budget proclamation with the trading pattern of foreign institutional investors and domestic institutional investors. This helps in deciphering the trading behavior of institutional investors in the Indian capital market. Accordingly, the research hypotheses have been defined in the below section.

2.2 Investor sentiments and behavioral biases

The investor sentiment is a total of investor optimism, investor participation, and stock market outlook. Major upheavals can be witnessed in the stock market during February every year due to the budget announcements.

Sindhu et al. (2014) defined sentiment as investors' beliefs and perceptions before investing in any security. Investors generally follow the herd during uncertain times (Qin, 2012; Chang et al., 2000; Hershleifer and Hong Teoh, 2003). Veira and M. (2015) have reported that investors switch from rational decision-making to irrational decision-making before investing in the securities market due to their sentiments.

Various behavioral biases have been described in the prior literature which influence an investor's decision-making in the stock market. Patel and B. (2008) and (Dash et al., 2011) observed the calendar effect on the performance of the Indian bourses and observed that November and December witnessed excessive returns than the rest of the ten months and March-May witnessed lower returns when compared to the remaining nine months. DeBondt and Thaler (1985) observed that investors react extremely and therefore, it can be deduced that Indian bourses are efficient only in the short run.

Mohanty (2004) analyzed the impact of various policy changes brought by the Indian Government and observed that the stock market quickly absorbs the publicly available information but the first correction in the returns is not always the correct one. (Sabnavis, 2005) has witnessed that the stock market performance is largely influenced by political affairs followed by economic events and natural disasters.

To conclude, it is vital to understand the trading pattern of the institutional investors to deduce the cause behind the change in returns and volatility around the budget period. This research gap needs to be filled before it widens.

3 Research Methodology

3.1 Data

The present study focuses on examining the impact of budget on the returns and volatility in the Indian securities market. Further, it is observed that the prior literature does not account for collation in the movement of foreign and domestic flows with the returns around the budget day. Therefore, this study attempts to collate the movement of foreign and domestic flows with the returns and volatility around the budget day.

Every year the union budget is announced on the 1st of February. A budget is nothing, but an outline of the revenues and expenditures planned for a future specified period. The current research work is bifurcated into two sub-parts. Firstly, an analysis has been undertaken for 12 years ranging from 2010-to 2021 wherein an event time frame has been established for 60 days, i.e., 30 days pre-budget and 30 days post-budget. This is further sub-divided into the short-term period (3 days), medium-term (15 days), and long-term period (30 days). Nifty 50 has been chosen as the benchmark index which is a proxy for stock market performance. We probe the influence of yearly budgets on market returns by comparing pre-and post-budget returns and volatility. The second part of the current study attempts to analyze the impact of the budget on the trading behavior depicted by foreign institutional investors (FIIs) and domestic institutional investors (DIIs) prevailing around the proclamation of the budget.

The selected time frame is capable of including the ups and downs witnessed in the Indian economy. 2010 was a period of high growth in terms of GDP while many policy changes were introduced within 12 years. Moreover, it is assumed that any policy change which is announced independent of the policy changes in the Union Budget might have an impact on the returns around the budget day because of the already changed perception among the investors. The current study is unique from the past literature as the prior research work focuses on investigating the impact of the union budget on the stock market performance whilst the present research work interpolates the change in market returns with the trading behavior of institutional investors around the time of budget announcement. The study analyses the effect of the budget on Nifty 50. The current research work includes the following hypotheses:

Hypothesis 3.1. *The union budget impacts the post-budget return of the short-term period.*

Hypothesis 3.2. *The union budget impacts the post-budget return of the medium-term period.*

Hypothesis 3.3. *The union budget impacts the post-budget return of the long-term period.*

Hypothesis 3.4. *The union budget impacts the post-budget volatility of the short-term period.*

Hypothesis 3.5. *The union budget impacts the post-budget volatility of the medium-term period.*

Hypothesis 3.6. *The union budget impacts the post-budget volatility of the long-term period.*

Hypothesis 3.7. *The union budget influences the foreign flows significantly.*

Hypothesis 3.8. *The union budget influences the domestic flows significantly.*

The data for net investments made by both the institutional investors and daily closing prices of the market return proxied by Nifty 50 has been extracted from the official website of the national stock exchange (NSE) for a period ranging from 2010-to 2021 which includes a total of 12 union budgets. A total of 60 trading days have been analyzed which are sub-divided into the pre-budget and post-budget periods. The event, i.e., the proclamation of the budget happens every

year on February 1 and therefore 30 trading days are included before the budget and after the budget respectively. Further, this event window is analyzed into the short-term period (3 days), medium-term (15 days), and long-term period (30 days). We have used paired samples T-statistics and F-statistic on mean returns and variances for analyzing the impact of union budgets on the market return proxy by Nifty 50. Paired samples T-statistic is also used for observing the movement of institutional flows (FIIs and DIIs) pre-and post-budget. For calculating the returns, the following logarithmic method has been used:

$$R_t = ln\frac{P_t}{P_{t-1}} \tag{1}$$

Where,

- ln= Natural log
- P_t= Closing price of Nifty 50 at time t
- P_{t-1}= Closing price of Nifty 50 at time t-1
- R_t= Market return at time t

Table 1. Sub-periods used in the study

Pre-budget long-term period	Pre-budget medium-term period	Pre-budget short-term period	Event day	Post-budget short-term period	Post-budget medium-term period	Post-budget long-term period
30 days X3	15 days X2	3 days X1	Z	3 days Y1	15 days Y2	30 days Y3

4 Analysis and Interpretation

4.1 Average returns of Nifty 50

Table 1 summarizes the mean of daily returns proxied by Nifty 50 during the various classified sub-periods around the budget day. A brief overview of the mean returns can be observed in table 2 indicating various sub-periods surrounding the budget day.

Table 2. Average Nifty 50 returns

Year	X_3	X_2	X_1	Y_1	Y_2	Y_3
2010	-0.0489	-0.5010	-0.8484	-0.3718	-0.2091	0.1221
2011	-0.1103	-0.4406	0.3334	-0.5439	-0.2876	-0.1044
2012	-0.2158	0.1688	0.9257	0.6029	0.5875	0.2609
2013	0.2389	0.0972	0.4321	-0.0433	0.0109	-0.0630
2014	0.1147	0.0309	0.2436	-0.1967	0.0594	-0.0885
2015	-0.0450	-0.2879	0.6449	-0.4974	-0.0392	0.1466
2016	-0.1733	-0.1272	0.0763	0.3574	-0.0573	-0.0308
2017	0.0018	0.0026	-0.0016	0.0032	0.0016	0.0017
2018	0.0022	0.0024	-0.0013	-0.0161	-0.0033	-0.0029
2019	-0.0002	0.0001	0.0053	0.0051	-0.0001	0.0019
2020	-0.0008	-0.0016	-0.0026	0.0120	0.0005	-0.0108
2021	-0.0001	-0.0024	-0.0145	0.0140	0.0018	0.0014

A total of six positive post-budget returns and six negative post-budget returns can be observed in the short-term period. While there are five negative pre-budget returns and seven positive pre-budget returns. In the medium-term period, there are six positive post-budget returns and six negative post-budget returns. While there are six negative pre-budget returns and six positive pre-budget returns. In the long-term period, there are six positive post-budget returns and six negative post-budget returns. While there are four positive pre-budget returns and eight negative pre-budget returns. In the long-term few negative returns have turned into positive and few have remained negative but their magnitude has reduced which indicates that the market yields tend to surge in the long term.

It can be noticed that as the time comes near to the date of the budget announcement, there is a euphoria in the market

which raises the market return. But following the budget day, the returns fall in the post-3 days and gradually the returns increase over the long-term period. This points out the fact that the overreaction in the post-3 days of the budget is corrected in the long-term as defined in this study. The benefit can be reaped by the first mover investors who cautiously trade in the short-term by not selling their stocks in fear of falling markets.

4.2 Paired t-test

Paired sample t-test has been employed to observe the impact of budget on the market returns using IBM SPSS. The test has been applied to the average returns calculated for the short-term, medium-term, and long-term periods. Three pairs have been tested for analyzing the impact of the budget on the market returns. The three pairs formed are X_1 and Y_1; X_2 and Y_2; and X_3 and Y_3.

Table 3. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	X3 - Y3	-.039242	.197188	.056923	-.164529	.086045	-.689	11	.505
Pair 2	X2 - Y2	-.093663	.151868	.043841	-.190155	.002829	-2.136	11	.049
Pair 3	X1 - Y1	.205632	.466987	.134808	-.091077	.502342	1.525	11	.155

4.2.1 *Short-term period (X_1 and Y_1)*

A paired sample t-test has been used on the average Nifty returns to analyze whether a notable difference exists between X1 and Y1. The paired sample correlation between X1 and Y1 is 0.276 with p>0.05. Table 3 suggests that the null hypothesis has been accepted because of p>0.05. However, on examining the rest of the tables, it is found that the mean return decreases from .1494 to -.0562 significantly. The mean decrease is .2056 at 5% significance. Therefore, the alternate hypothesis Hypothesis 3.1 is rejected, and it can be deduced that there is no influence of the budget on the returns of short-term returns of Nifty 50.

4.2.2 *Medium-term period (X_2 and Y_2)*

A paired sample t-test has been applied to the average Nifty returns to analyze whether a significant difference exists between X2 and Y2. The paired sample correlation between X2 and Y2 is 0.738 with p<0.05.Table 3 suggests that the null hypothesis has been rejected because of p<0.05. Further, on examining the rest of the tables, we find that there is a significant increase in the mean return from -.0882 to .0054. The mean increase is .0936 at a 95% confidence interval. Therefore, the alternate hypothesis Hypothesis 3.2 is accepted, and it can be deduced that the budget impacts the returns in the medium-term significantly.

4.2.3 *Long-term period (X_3 and Y_3)*

A paired sample t-test has been applied to the average Nifty returns to analyze whether a significant difference exists between X3 and Y3. The paired sample correlation between X3 and Y3 is -0.518 with p>0.05. The paired sample correlation between X3 and Y3 is 0.276 with p>0.05. Table 3 propounds that the null hypothesis has been accepted because of p>0.05. However, on examining the rest of the tables, we find that there is a significant increase in the mean return from -.0197 to .0195. The mean increase is .0392 at a 95% confidence interval. Therefore, the alternate hypothesis Hypothesis 3.3 is rejected and it can be concluded that the budget does not influence the long-term returns.

Thus, we have noticed that returns are statistically different in the post-budget medium-term from the pre-budget medium-term period which implies that the overreaction in form of adverse returns in the short-term is corrected in the medium-term. The falling market return in the short term may be due to the high expectation of the investors from the budget which is not realized.

4.3 Volatility

Table 4 gives an overview of the variance of market returns during the various sub-periods around the budget announcement day. A glance over the table shows that variance decreases over the post-budget long-term period when compared to short-term and medium-term respectively.

The F test was run to ascertain the volatility in the Indian bourse during various posy-budget periods around the budget day. The result implies that volatility is greatest in the short-term period as juxtaposed to the medium-term and long-term periods. The statistic indicates that significant volatility exists between the short-term (Y1) and medium-term period (Y2) after the budget as 3.15 (F value) >2.81 (F critical value). Also, the variance is significant between the short-term (Y1) and long-term period (Y3) after the budget as 3.21 (F value) >2.81 (F critical value). However, the variance is insignificant

Table 4. Variance of Nifty 50 returns

Year	X3	X2	X1	Y1	Y2	Y3
2010	1.75245	1.16013	3.93831	4.55455	1.71428	1.18396
2011	1.34147	1.62701	0.80717	1.45095	2.18832	2.23295
2012	1.51482	0.80666	0.78617	0.42369	1.01315	1.37068
2013	0.38936	0.37493	0.18076	0.13479	0.32187	0.24945
2014	0.87006	0.61527	0.01103	0.12419	0.56031	0.61916
2015	0.53061	0.72830	1.08982	0.55624	1.11142	1.02138
2016	0.54418	0.52458	0.79920	1.51630	0.83487	0.97245
2017	0.00005	0.00004	0.00004	0.00001	0.00002	0.00002
2018	0.00002	0.00002	0.00004	0.00005	0.00009	0.00008
2019	0.00005	0.00006	0.00010	0.00003	0.00005	0.00004
2020	0.00005	0.00004	0.00006	0.00010	0.00010	0.00076
2021	0.00012	0.00013	0.00002	0.00010	0.00012	0.00016

between the medium-term (Y2) and long-term period post budget (Y3) as 1.04 (F value) <2.81 (F critical value). Therefore, Hypothesis 3.4 is accepted whereas Hypothesis 3.5 and Hypothesis 3.6 are rejected. In other words, we can say that the variance is significant in post-3 days when compared to the post-15 days and post-30 days. This result is supported by many studies (Gakhar et al., 2015; Saraswat and Banga, 2012). After the announcement of the budget, investors overreact in the market which increases the volatility but as people comprehend the budget over time rationally, return increases and volatility reduces.

We have analyzed the difference in volatility among various post-budget sub-periods. Now, we wish to analyze the difference in volatility between various post-budget sub-periods and pre-budget long-term periods. The result specifies that the volatility between post-budget short-term period and the pre-budget long-term period is significant as the calculated F value (4.15) is greater than the F critical value (2.81). However, the volatility between the post-budget medium-term and pre-budget long-term period is insignificant as the F value (1.31) is smaller than the F critical value (2.81). Also, insignificant volatility exists between post-budget long-term period and the pre-budget long-term period as the F value (1.25) is smaller than the F critical value (2.81). This shows that after the proclamation of the budget, investors make the market volatile in the post-3 days. Therefore, these tests indicate that volatility decreases over the post-budget medium and long-term period in contrast to the post-budget short-term period.

5 Foreign flows and Domestic flows

The budget has a strong impact on the trading patterns of institutional investors. The budget 2021 was purely growth-oriented and thus, we could see a huge influx of foreign capital whereas domestic investors were on a selling spree to book profits. It is reported that FIIs follow a positive feedback trading strategy and DIIs follow a contrarian feedback trading strategy (Sehgal and Tripathi, 2009; Chauhan and Chaklader, 2020). Therefore, it is worthwhile to analyze the behavior depicted by FIIs and DIIs in the equity segment of the Indian capital market around the budget day. We have divided the data of net investments of FIIs and DIIs in a similar fashion as expressed above into short-term, medium-term, and long-term pre- and post-budget periods. In the previous studies, it is observed that FIIs and DIIs portray opposite behavior to each other because FIIs are return chasers and DIIs invest long-term in the local stock market (Arora, 2016). We analyzed this by performing a paired samples T-test on different subperiods of FIIs and DIIs respectively. Table 5 and Table 6 reports the results:

Table 5. Paired samples T-statistics (FIIs)

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	FIIN_X3 - FIIIN_Y3	-224.048	2259.452	119.084	-458.237	10.141	-1.881	359	.061
Pair 2	FIIN_X2 - FIIN_Y2	-161.329	1488.754	110.965	-380.298	57.639	-1.454	179	.148
Pair 3	FIIN_X1 - FIIN_Y1	857.951	2407.753	401.292	-1672.617	-43.284	-2.138	35	.040

The result shows that there exists a statistically significant difference in the trading strategy adopted by FIIs in the pre-and post-budget short-term period as p value<0.05. There is a mean decrease of 857.951 at a 5% level of significance

in the post-budget short-term period. This shows that FIIs indulge in massive selling in the short term just after the announcement of the budget. Also, we can see that the trading strategy adopted by FIIs in the pre-and post-budget long-term period does though not have a significant difference at the 5% level but it is significant at the 10% level of significance. Further, it is noticed that foreign investors indulge in making the market returns deviate from their fundamental value by overreacting to the news/shocks/events (Chauhan and Chaklader, 2020; (Ananthanarayan et al., 8-9 June 2009; ?; Dhingra et al., 2016)

Table 6. Paired sample t-statistics (DIIs)

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	DIIN_X3 - DIIN_Y3	-23.505	1287.106	67.836	-156.912	109.902	-.346	359	.729
Pair 2	DIIN_X2 - DIIN_Y2	-14.758	1037.505	77.331	-167.356	137.840	-.191	179	.849
Pair 3	DIIN_X1 - DIIN_Y1	-214.068	1227.024	204.504	-201.097	629.233	1.047	35	.302

Table 6 depicts that there exists an insignificant difference in the net investment pattern of DIIs in the pre-and post-budget periods. This indicates that only foreign investors significantly change their investment strategy in the short-term market after the announcement of the budget. Thus, we can conclude that the impact of the budget on the investment strategy adopted by foreign institutional investors is significant in the short term. Therefore, we accept the alternate hypothesis H7 and reject the alternate hypothesis H8. Lastly, we wish to analyze the difference between the net investment pattern adopted by FIIs and DIIs in the long-term period. table 7 depicts the following results

Table 7. Paired samples T-statistics between FIIs and DIIs pre- and post-budget

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	FIIN_Y1 - DIIN_Y1	265.664	2035.040	339.173	-422.894	954.223	.783	35	.439
Pair 2	FIIN_Y2 - DIIN_Y2	218.008	2065.211	153.932	-85.746	521.763	1.416	179	.158
Pair 3	FIIIN_Y3 - DIIN_Y3	290.853	2893.017	152.475	-9.004	590.710	1.908	359	.050
Pair 4	FIIN_EVENT DAY - DIIN_EVENT DAY	329.161	1279.871	369.467	-484.030	1142.352	.891	11	.392

table 7 gives evidence that as p value<0.05, foreign investors and domestic investors pursue different investment strategies in the long term. Thus, we can say that both types of investors follow an opposite trading strategy in the Indian stock market. Following graph 1 is provided to examine a clearer version of the opposite investment strategies adopted by FIIs and DIIs.

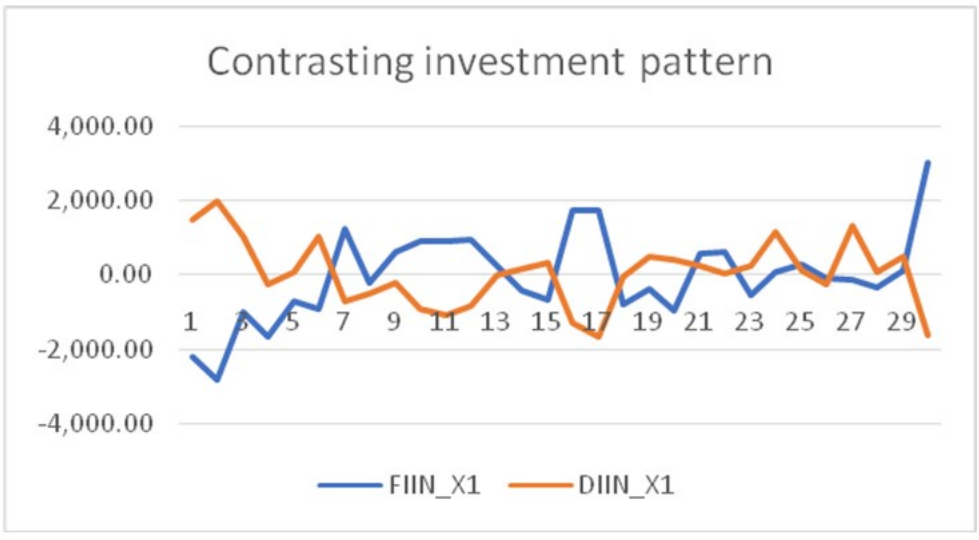

Figure 1. Contrasting investment pattern of FIIs and DIIs in a pre-budget short-term period

It is seen in Figure 1 that, foreign investors are in the perception of buying the stocks and domestic investors are in a mood of selling the stocks or to remain stable in the pre-budget short-term period. This could be because foreign investors are expecting some favorable policies in the budget to be announced a day ahead. Further, it is noticed that DIIs and FIIs always move in the opposite direction. Also, it is reported in the prior study that foreign investors have the capability of dictating the investment patterns of domestic investors (Kotishwar and Alekhya, 2015), and thus, it can be concluded that domestic investors invest in the stocks which are rejected by the foreign investors (Bhanumurthy and Singh, 2013).

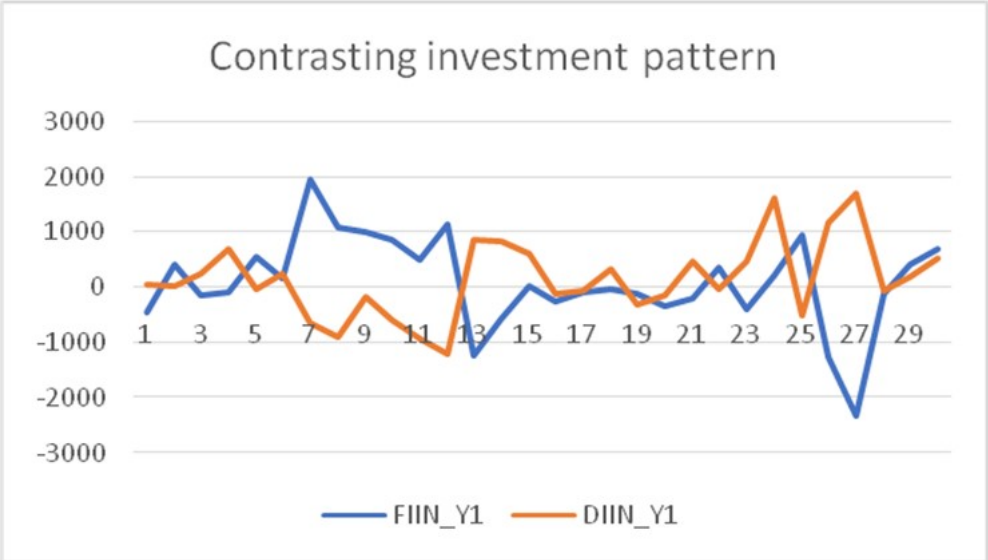

Figure 2. Contrasting investment pattern of FIIs and DIIs in post-budget short-term period

Further, it can be seen inFigure 2 that DIIs are on an upward trend contrary to foreign investors who are on a downward trend. In other words, it is seen that foreign investors sell the stocks in the Indian stock market as the policies which they expected in the budget are not crystallized. Therefore, with their massive selling activities, foreign investors destabilize the Indian market and the returns deviate from their fundamental/intrinsic value. Also, the trading behavior adopted by foreign investors is accounted for in the prior studies. It is observed that as the market falls, foreign investors withdraw from the securities market and when the market return rises, they invest in the hope of future increment in the securities market. In other words, FIIs follow a positive feedback trading strategy and are sensitive to the policy changes, events, news, and shocks in the Indian scenario (Srinivasan and Kalaivani, 2015; Kim, 2002; Cai and Zheng, 2004; Sehgal and Tripathi, 2009). On the contrary, domestic investors are portrayed as the stabilizers in the Indian securities market and are known to follow contrarian feedback trading strategies. In other words, as the market rises, the domestic investors choose to withdraw from the market and as soon as the market falls, they choose to invest in the capital market to book limitless returns. They follow the strategy of buying at a lower price and selling at a higher price. Therefore, it is assumed that domestic investors stay in the Indian markets for the long term (Srinivasan and Kalaivani, 2015; Kotishwar and Alekhya, 2015; Bansal and Rao, 2018; Chhimwal and Bapat, 2020).

6 Conclusion

The paper concludes that investors overreact in the short run which causes the market return to decrease. It implies that in the short-term, investors trade in such a way that the market returns deviate from their fundamental value but during the medium and long-term period a major correction in the market return happens which causes the market to reach close to its intrinsic value. We have also observed a significant effect on the budget in the medium-term post-budget period (Babu and Venkateswarlu, 2013). Thus, we can safely assume that relatively lower average returns in the short-term period are because of the change in investor sentiments due to an unfavorable budget, and the increasing returns over the long-term period may be because of the investors comprehending the policies and their implications.

The volatility in the short-term post-budget period is the greatest when compared to the long-term pre-budget period and various subperiods in the post-budget period. This indicates that an unfavorable budget makes the investors overreact in the market which induces them to trade in the market without comprehending the policies introduced in the budget. Further, the volatility decreases over the long-term post-budget period. This may be due to the actions of informed investors to bring the stock prices back to their fundamental value. The policies and their implications are deciphered by the investors post-budget which causes the market return to increase and volatility to decrease in the long term. Therefore, volatility is higher and more significant in the short-term when compared to the medium-term and long-term. Also, we can assume

that foreign investors cause the deviation in the market returns in the short term because of the differences in the expected policies and actual policies that have been announced in the budget while domestic investors correct the market in the long term. Moreover, it can be observed that foreign and domestic investors follow a contrasting trading strategies in the Indian stock market. The stock market investors are exposed to lower volatility in the long-run post-budget associated with higher returns.

The present study contributes to the existing literature on the topic by associating the alteration in the market return and volatility with the institutional trading flows. To collate, the foreign investors increase their buying in the Indian stock market in the pre-budget short-term period in expectation of a favorable union budget. However, due to the mismatch between the expected and actual budget, the foreign investors start to sell massively which causes the market returns to go down and volatility to shoot up. Meanwhile, domestic investors play a safe bet and move oppositely to FIIs to stabilize the stock market.

7 Recommendation

The February effect exists due to the interlinkages between the announcement of the union budget and the trading patterns of the institutional investors. It is therefore advisable to not panic in the post-budget short-term period due to low returns and high volatility caused by the foreign flows. The stock market eventually normalizes in the long run and hence, the investors can reap the benefit from investing in the short term and selling in the long term to book profits. Also, the retail investors are suggested to follow the trading behavior of DIIs who opt for a contrarian feedback trading strategy.

The academicians can extend the research work by bifurcating the trading flows of DIIs into the various important category of domestic investors like banks, mutual funds, insurance companies, etc. This would help in understanding the effect of the budget on the trading flows of institutional investors.

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The authors declare that there exists no prospective conflict concerning the authorship and publication of this article. The views demonstrated here belong to the authors and not to the organizations they correspond to.

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