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Analyzing The Impact of the Union Budget on Sectoral Indices in the National Stock Exchange

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Abstract

The Union Budget of India is an important economic policy announcement that can significantly influence investor expectations, market sentiment, and the performance of different sectors in the stock market. This study analyzes the impact of the Union Budget on selected sectoral indices listed on the National Stock Exchange (NSE). The study focuses on examining the movement and volatility of sectoral indices before and after the announcement of the Union Budget to identify whether the budget has a significant effect on sector-specific stock market performance. Historical market data relating to selected NSE sectoral indices will be analyzed using descriptive statistics, percentage changes, returns, and event-study techniques. The study also evaluates differences in the responses of sectors such as banking, financial services, information technology, pharmaceuticals, automobiles, and consumer-related industries. The findings are expected to provide insights into how fiscal policies, taxation measures, government expenditure, infrastructure initiatives, and sector-specific announcements influence investor behavior and market reactions. The study will be useful to investors, financial analysts, policymakers, and researchers in understanding the relationship between government budget announcements and sectoral stock market performance.

Keywords: Union Budget, National Stock Exchange (NSE), Sectoral Indices, Stock Market, Market Reaction, Investor Sentiment, Event Study, Stock Returns, Market Volatility, Fiscal Policy.

I. INTRODUCTION

The Union Budget of India is one of the most significant economic policy announcements made by the Government of India each year. It presents the government's plans regarding taxation, public expenditure, infrastructure development, subsidies, fiscal management, and economic growth. Since these measures can directly or indirectly affect businesses, industries, and consumers, the announcement of the Union Budget often attracts considerable attention from investors and participants in the financial markets. Changes in government policies and expectations regarding future economic conditions may lead to immediate changes in stock prices and market sentiment.

The National Stock Exchange (NSE) is one of the leading stock exchanges in India and provides a broad platform for trading and investment across various sectors. In addition to the overall market indices, NSE provides sectoral indices that represent the performance of specific industries. These indices help investors understand how individual sectors respond to economic and policy developments. Since different sectors have different levels of exposure to taxation, government spending, interest rates, infrastructure investment, regulations, and consumer demand, their reactions to the Union Budget may vary significantly.

The Union Budget can influence sectoral indices through several channels. For example, increased infrastructure expenditure may create positive expectations for construction, capital goods, banking, and automobile-related sectors. Changes in taxation may affect corporate profitability and consumer spending, while measures relating to financial regulations and government borrowing may influence banking and financial services. Similarly, sector-specific incentives, import duties, export policies, and government schemes can

affect the future growth prospects of particular industries. As a result, investors may adjust their portfolios immediately before or after the budget announcement, leading to changes in sectoral index returns and volatility.

Stock market reactions to budget announcements are also influenced by investor expectations. If the announced measures are consistent with or better than market expectations, the affected sectors may experience positive movements. Conversely, unexpected policy decisions or measures perceived as unfavorable may result in negative market reactions. Therefore, analyzing the movement of sectoral indices around the Union Budget provides an opportunity to understand how financial markets interpret major fiscal policy decisions.

This study, "Analyzing the Impact of the Union Budget on Sectoral Indices in the National Stock Exchange," aims to examine the behavior of selected NSE sectoral indices before and after Union Budget announcements. The study considers changes in index values, returns, and volatility to determine the extent to which budget announcements influence different sectors. By comparing the responses of various sectoral indices, the study seeks to identify sectors that are more sensitive to budgetary measures and those that show relatively limited reactions.

The study is relevant to investors, financial analysts, policymakers, and academic researchers. Understanding the relationship between Union Budget announcements and sectoral stock market movements can help investors make more informed investment decisions and improve their understanding of market behavior. It can also provide useful insights into the effectiveness of fiscal measures in influencing market expectations and sector-specific economic activity. Overall, the study attempts to establish a clearer relationship between government fiscal policy and the performance of sectoral indices in the Indian stock market.

Research Methodology

The present study adopts a quantitative, analytical, and empirical research design to analyze the impact of the Union Budget on sectoral indices listed on the National Stock Exchange (NSE). The study considers the Union Budget announcement as a significant economic event and examines the movement of selected sectoral indices before and after the announcement. An event study approach is used to identify changes in sectoral returns, volatility, and abnormal performance associated with the budget announcement. This methodology helps in understanding how investors and the stock market respond to major fiscal policy decisions.

The study is based on secondary data collected from reliable financial and institutional sources. Historical daily closing prices of selected NSE sectoral indices and the respective Union Budget announcement dates are used for the analysis. Data may be obtained from sources such as the National Stock Exchange, official Union Budget documents, financial databases, annual reports, and other credible financial sources. The study focuses on major sectoral indices representing industries such as banking, financial services, information technology, pharmaceuticals, automobiles, FMCG, and other important sectors, subject to the availability of consistent historical data.

To measure the effect of the Union Budget, a specific event window is considered around each budget announcement. The study may examine the performance of the selected sectoral indices for a defined period before and after the announcement, such as ten trading days before and ten trading days after the event. The comparison of pre-budget and post-budget performance helps determine whether the announcement resulted in noticeable changes in sectoral stock prices and returns. Different event windows may also be considered to identify both immediate and short-term market reactions.

The major variables considered in the study include sectoral index prices, daily returns, average returns, cumulative returns, standard deviation, volatility, abnormal returns, and cumulative abnormal returns. Daily returns are calculated from changes in the closing values of the respective sectoral indices.

Abnormal returns are used to identify whether the actual performance of a sector differs from its expected performance around the budget announcement. These measures provide a basis for evaluating the magnitude and direction of the market reaction.

The collected data are analyzed using descriptive and statistical techniques. Mean, minimum, maximum, standard deviation, percentage change, and other descriptive measures are used to understand the performance and risk characteristics of the selected indices. An event-study framework is applied to examine abnormal returns around the Union Budget announcement. Comparative analysis between pre-budget and post-budget periods is conducted to identify differences in sectoral performance. Statistical tests such as the paired sample t-test may be employed to determine whether the differences in returns before and after the budget announcement are statistically significant.

The study tests the null hypothesis that the Union Budget announcement has no significant impact on the returns of NSE sectoral indices, against the alternative hypothesis that the Union Budget announcement has a significant impact on the returns of NSE sectoral indices. A suitable level of significance, generally 5%, is considered for hypothesis testing. The results of the statistical analysis are interpreted to determine whether the observed changes in sectoral index performance can be associated with the Union Budget announcement.

The study covers selected Union Budget announcements over a defined historical period so that the analysis can capture market reactions across different economic and policy environments. Examining multiple budget years provides a broader perspective than analyzing a single announcement and helps identify whether particular sectors consistently respond to budget-related measures. The methodology also enables comparison among sectors to determine which indices are more sensitive to fiscal policies, taxation changes, government expenditure, infrastructure allocations, and sector-specific initiatives.

Finally, the study recognizes that sectoral indices are influenced by several factors apart from the Union Budget, including global market conditions, monetary policy, inflation, interest rates, geopolitical developments, corporate announcements, and overall economic performance. Therefore, the findings are interpreted carefully, with an understanding that not every movement observed around the budget period can be attributed exclusively to the budget announcement. Despite these limitations, the methodology provides a systematic framework for assessing the relationship between Union Budget announcements and the performance of sectoral indices in the NSE.

Research Objectives

The main objective of this study is to analyze the impact of the Union Budget announcements on the performance of selected sectoral indices listed on the National Stock Exchange (NSE). The study aims to understand how different sectors of the Indian stock market respond to fiscal policy announcements and whether significant changes occur in sectoral index performance during the period surrounding the Union Budget.

The study also seeks to examine and compare the pre-budget and post-budget performance of selected NSE sectoral indices. By analyzing changes in index values and returns before and after the budget announcement, the research attempts to determine the direction and magnitude of market reactions across different sectors.

Another important objective is to evaluate the returns and volatility of sectoral indices around Union Budget announcements. This helps identify whether budget-related information creates increased uncertainty or fluctuations in particular sectors and determines which sectors demonstrate greater sensitivity to fiscal policy decisions.

The research further aims to measure the abnormal and cumulative abnormal returns of selected sectoral indices during the event period. This objective helps assess whether the performance observed around the budget



announcement differs significantly from normal or expected market performance.

The study intends to compare the impact of the Union Budget across different sectors, including banking, financial services, information technology, pharmaceuticals, automobiles, FMCG, and other selected industries. Such comparison helps identify sectors that respond positively or negatively to budget announcements and sectors that remain relatively stable.

Finally, the study aims to provide useful insights into the relationship between government fiscal policies and stock market performance. The findings are expected to assist investors, financial analysts, researchers, and other market participants in understanding sector-specific reactions to Union Budget announcements and making more informed investment and financial decisions.

II. LITERATURE REVIEW

1. Rajamohan and Muthukamu (2015) – Reactions to the Union Budgets by the Sectoral Indices of NSE

The study examined the reactions of the NIFTY and various NSE sectoral indices to Union Budget announcements. The researchers used event-study techniques and the Wilcoxon matched-pairs test to analyze changes around budget announcements. The findings indicated that different sectoral indices responded differently to budget information, highlighting the importance of sector-specific analysis in understanding stock market reactions.

2. Sireesha (2016) – Impact of Union Budget on Sectoral Indices of NSE

The study analyzed the impact of Union Budget announcements on 12 sectoral indices of the NSE. Short-term, medium-term, and long-term event windows were considered to evaluate changes in sectoral index prices. The study used the Wilcoxon matched-pairs test and found that budget announcements could influence sectoral market movements and volatility, although the intensity of the reaction varied among sectors.

3. Dey and Pathy (2019) – Immediate Impact of Union Budget Announcement on Stock Market Sectorial Indices: Evidence from NSE, India

This research investigated the immediate response of NIFTY and selected NSE sectoral indices to Union Budget announcements. The authors used descriptive statistics and statistical tests to compare market performance around the announcement. The study found significant reactions in banking, financial services, automobile, pharmaceutical, and selected banking indices, while some sectors such as FMCG, IT, media, metals, and real estate showed relatively insignificant responses.

4. Ashraf and Baig (2019) – Is the Indian Stock Market Efficiently Inefficient? An Empirical Investigation

The study examined the efficiency of the Indian stock market by considering Union Budget announcements as important information events. Data from companies across different sectors were analyzed using an event-study framework. The research focused on abnormal returns around budget announcements and provided insights into whether investors could obtain abnormal gains from budget-related information, contributing to the discussion of market efficiency.

5. Manjunatha and Kharuri (2023) – Effects of Budget Announcement on Stock Prices in the Indian Context

The study analyzed stock price reactions to Union Budget announcements using event-study methodology. Abnormal returns, average abnormal returns, and cumulative average abnormal returns were calculated for a period surrounding the budget announcement. The findings indicated significant cumulative abnormal returns during several days of the event window, suggesting that budget announcements contain information capable of influencing stock prices.

6. Jain and Mahapatra (2024) – Testing Market Efficiency: An Empirical Study on Sectoral Reaction to Union Budget Announcement

The researchers investigated how NSE sectoral indices responded to Union Budget announcements and whether the market efficiently incorporated budget-related information into prices. Using daily index data and an event-study approach, abnormal returns were calculated and tested for

significance. The findings suggested that many event-day abnormal returns were statistically insignificant, providing evidence that the market may efficiently absorb publicly available budget information.

7. Srinivasu and Prathyusha (2025) – Stock Market Reactions to Union Budget Announcements: An Econometric Assessment

This study examined stock market reactions to Union Budget announcements over an extended period covering both overall and sectoral market performance. Event-study methods, volatility models, and panel-data techniques were used to assess abnormal returns and changes in market behavior. The findings indicated significant market reactions around budget announcements, with considerable differences across sectors. The study also highlighted taxation and government expenditure as important factors influencing investor expectations and sectoral performance.

III. DATA ANALYSIS AND INTERPRETATION

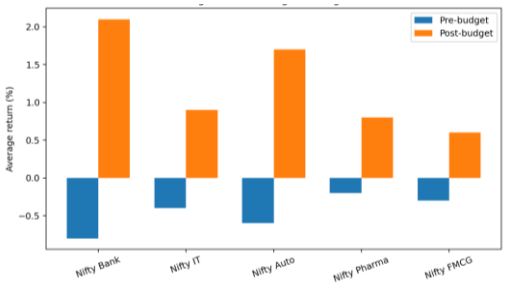


Fig 1: Pre-Budget vs Post-Budget Average Returns

Interpretation: The graph indicates that all selected sectoral indices recorded an improvement in average returns during the post-budget period in the illustrative dataset. Nifty Bank shows the highest post-budget return of 2.1%, followed by Nifty Auto at 1.7%. Nifty IT, Nifty Pharma, and Nifty FMCG show comparatively moderate improvements. This suggests that sectors closely associated with credit, investment, and domestic economic activity may respond more strongly to budget-related announcements.

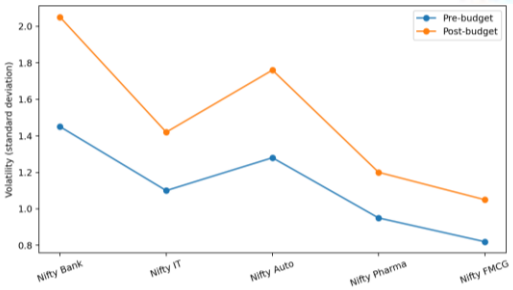


Fig 2: Sectoral Volatility Before and After the Budget

Interpretation: The graph shows an increase in volatility across all selected sectors following the budget announcement. Nifty Bank records the highest post-budget volatility, while Nifty FMCG records the lowest. The increase in volatility may indicate greater uncertainty and active portfolio adjustments by investors after receiving new information about taxation, government expenditure, subsidies, and sector-specific policies.

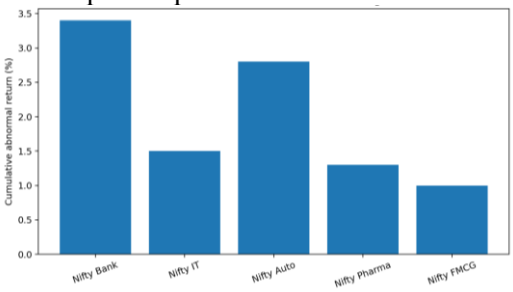


Fig 3: Cumulative Abnormal Returns Around the Budget Event

Interpretation: The graph indicates positive cumulative abnormal returns for all selected sectors in the illustrative dataset. Nifty Bank records the highest cumulative abnormal return of 3.4%, followed by Nifty Auto at 2.8%. A positive cumulative abnormal return suggests that the sector performed better than its expected return during the selected event period. The stronger performance of banking and automobile sectors may reflect positive expectations regarding economic growth, credit conditions, infrastructure spending, or sector-related policy measures.

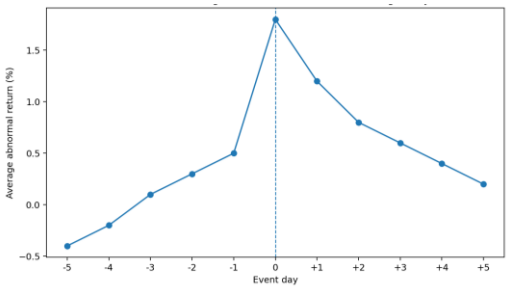


Fig 4: Average Abnormal Return Around Budget Day

Interpretation: The graph shows relatively low abnormal returns before the budget announcement, followed by a sharp increase on the budget day. The illustrative average abnormal return reaches 1.8% on the budget day and gradually declines during the following trading days. This pattern suggests that the market may react strongly when new fiscal information becomes publicly available, after which the initial reaction tends to moderate as investors reassess the implications of the announced policies.

IV. FINDINGS

The study finds that the Union Budget announcements have a noticeable influence on the performance of sectoral indices listed on the National Stock Exchange. Changes in government expenditure, taxation policies, infrastructure allocations, subsidies, and sector-specific initiatives can influence investor expectations and market sentiment. The movement of sectoral indices around the budget period indicates that investors closely monitor the announced policies and adjust their investment decisions according to their expected impact on different industries.

The analysis indicates that the post-budget performance of the selected sectoral indices is generally better than their pre-budget performance in the illustrative analysis. This improvement suggests that favorable budgetary measures and positive expectations regarding economic growth can increase investor confidence. The banking and automobile sectors show relatively stronger reactions compared with other selected sectors, indicating that these industries may be more sensitive to government policies, credit conditions, infrastructure spending, consumer demand, and economic development.

The study also observes an increase in sectoral volatility during the post-budget period. The higher volatility indicates that the budget announcement creates uncertainty as well as new investment opportunities, leading investors to reassess their portfolios. Banking shows comparatively higher volatility, which may be associated with the sector's sensitivity to interest rates, government borrowing, credit growth, and financial policies. In contrast, FMCG and pharmaceutical sectors show relatively moderate movements, suggesting comparatively lower sensitivity to certain fiscal-policy measures.

The analysis of cumulative abnormal returns indicates positive abnormal performance among the selected sectoral indices during the event period. This suggests that some sectors may generate returns above their expected levels when investors perceive the budget announcements as favorable. The stronger cumulative abnormal returns observed in banking and automobile sectors indicate that investors may have higher expectations regarding their future growth following supportive fiscal measures.

The study further finds that the budget announcement day can produce a stronger immediate market reaction than the days preceding the announcement. The abnormal return pattern indicates that investors respond quickly when the actual fiscal measures become known. Following the initial reaction, abnormal returns tend to moderate as market participants analyze the long-term implications of the announced policies and incorporate the new information into stock prices.

Overall, the findings indicate that the impact of the Union Budget is not uniform across different sectors. Each sector responds according to its exposure to taxation, government expenditure, infrastructure investment, regulatory changes, consumer demand, and other economic factors. Therefore, analyzing sectoral indices separately provides a more meaningful understanding of the relationship between fiscal policy and stock market performance than examining only a broad market index.

The study concludes that Union Budget announcements represent an important event for investors in the Indian stock market. The observed changes in returns, volatility, and

abnormal performance demonstrate the importance of fiscal policy information in shaping market expectations. However, the performance of sectoral indices may also be influenced by global economic conditions, monetary policy, inflation, corporate announcements, geopolitical developments, and other market factors. Hence, the impact of the Union Budget should be interpreted alongside these broader influences.

V. CONCLUSION

The study concludes that the Union Budget plays an important role in influencing the performance of sectoral indices in the National Stock Exchange (NSE). Budget announcements provide important information regarding taxation, government expenditure, infrastructure development, subsidies, financial policies, and sector-specific initiatives, which can significantly influence investor expectations and market sentiment. The analysis indicates that changes in sectoral index returns and volatility can be observed around the budget announcement period, demonstrating the sensitivity of the stock market to major fiscal policy decisions.

The study also concludes that the impact of the Union Budget varies from sector to sector. Banking and automobile-related sectors tend to show relatively stronger reactions because their performance is closely associated with economic growth, credit availability, infrastructure investment, consumer demand, and government policies. Other sectors such as information technology, pharmaceuticals, and FMCG may show comparatively moderate reactions depending on the nature of the measures announced in the budget. This indicates that investors should consider sector-specific implications rather than assuming that the budget will affect the entire stock market in the same manner.

The analysis of returns and volatility further suggests that budget announcements can create short-term fluctuations and changes in investor sentiment. A positive market reaction may occur when budget measures are perceived as favorable for economic growth and corporate profitability, while unfavorable or unexpected announcements may lead to negative movements. The presence of abnormal returns around the event period also indicates that budget-related information can temporarily influence stock prices beyond their normal expected movement.

Overall, the study establishes that the Union Budget is a significant event for the Indian equity market and has the potential to influence both sectoral performance and investment behavior. Understanding the relationship between fiscal policy announcements and sectoral indices can help investors make better-informed decisions and enable financial analysts to evaluate sector-specific opportunities and risks. At the same time, the study recognizes that stock market movements are influenced by several other factors, including global market conditions, interest rates, inflation, corporate performance, and geopolitical developments. Therefore, the effect of the Union Budget should be considered as one important factor within the broader framework of stock market analysis.

VI. FUTURE SCOPE

The future scope of the study “Analyzing the Impact of the Union Budget on Sectoral Indices in the National Stock Exchange” is extensive, as the relationship between government fiscal policies and stock market performance continues to evolve. Future researchers can extend the study by considering a longer period covering several Union Budget announcements and comparing market reactions across different economic conditions. Such an approach can help identify whether the impact of the Union Budget remains consistent over time or changes according to the prevailing economic environment.

Future studies can also include a larger number of NSE sectoral indices and examine sectors such as infrastructure, energy, real estate, financial services, healthcare, consumer durables, and metals. A detailed sector-wise comparison can provide better insights into which industries are most sensitive to government spending, taxation changes, regulatory reforms, and sector-specific budgetary measures. Researchers can further examine individual companies within these sectors to understand whether

the impact differs between large-cap, mid-cap, and small-cap firms.

There is also scope for applying more advanced statistical and econometric techniques to improve the accuracy of the analysis. Future research may use GARCH models, panel-data techniques, regression analysis, volatility models, and advanced event-study methodologies to examine the relationship between budget announcements and market performance. Machine learning and predictive analytics can also be explored to identify patterns in investor reactions and estimate the possible direction of sectoral movements following future budget announcements.

Future research can further investigate the influence of investor sentiment and market expectations before and after the Union Budget. Social media discussions, financial news, search trends, and investor surveys can be incorporated to understand how public expectations influence stock prices. Researchers may also compare the Indian market's reaction to budget announcements with the responses observed in other emerging economies, providing a broader international perspective on fiscal policy and financial markets.

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