To what extent did the change in US 10-year bond yields between 2025-2026 affect the performance of the Indian stock market, as measured by the Nifty 50 index and foreign portfolio investment flows?

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ABSTRACT

This research investigates the correlation between changes in US Treasury 10-year yield and Indian Stock Market with Nifty 50 daily return made from January 2, 2025, to October 1, 2026. The research uses secondary financial market data and graphical analysis through multiple linear regressions in order to study the association between the change in Treasury yield and the return on Nifty 50 while also keeping in mind the fluctuations of the USD/INR exchange rate, Brent Crude Oil rates, the CBOE Volatility Index (VIX), and the returns on S&P 500. The regression analysis with a sample size of 407 observations shows that the independent variables are statistically significant jointly with the R-square of 0.1533. The coefficient of the change in Treasury yield is positive but insignificant at a confidence level of 5% ($p = 0.069$). Thus, there is no evidence of a clear link between daily changes of yield in Treasury bonds in comparison to Nifty 50 returns obtained in this study. On the contrary, the changes in USD/INR exchange rate have a negative and significant relationship with Indian stocks. Moreover, the Brent Crude Oil changes, VIX changes, and S&P 500 changes have zero statistical significance in the regression model. The findings suggest that the relationship between US Treasury yields and Indian equities

is complex and cannot be established through visual co-movement alone. The study is limited by the absence of consistent foreign portfolio investment data and does not establish causal relationships.

1. INTRODUCTION

International financial markets are increasingly interconnected, allowing changes in the monetary and financial conditions of major economies to influence asset prices and investment decisions across national borders. The US has a key place in this system because US Treasury bonds are used as benchmarks for interest and financial market valuation. Thus, US Treasury yields movements can affect emerging markets through the changes in the attractiveness of international capital movements, exchange rates, and the global risk appetite. Accordingly, knowledge of this financial transmission is important to India, whose equity market is under the influence of the world financial situation and domestic economic fundamentals concurrently.

The 10-year yield on US Treasury bonds is an important metric that serves as an indicator of the costs of borrowing long-term funds and expectations in the financial markets. Its fluctuation is influenced by different factors in the economy like expected economic policies, inflation anticipations and term premium paid by investors due to holding bonds with very long-term maturities. The growth in Treasury yields has the effect of making US government bonds more attractive to international investors compared to equities of emerging markets thus prompting them for changes in their portfolios. In addition, the yield rise may contribute to increasing discount rates used in estimating future corporate profit levels that may have a

negative influence on the equity market valuations. Nevertheless, these effects may vary as there are different scenarios for the occurrence of interest rate growths. When interest rates rise due to high level of economic activities then expected improvements in corporate profits may mitigate the negative implications of higher discount rates. Mehrotra, Moessner and Shu (2019) mention that movements in long-term interest rates have much wider effects around the world although these effects have different extent depending on what caused the increase in the yield of the bonds.

India forms an appropriate environment for exploring these relationships. The authority of the Nifty 50 index lies in its ability to show the performance of some of the top companies registered on the National Stock Exchange of India, which also helps in gauging the changes in the domestic stock market. The changes in the index give an idea of the international financial conditions as well as of domestic earning expectations, monetary policies, inflation, political situations, and investors' sentiments. In addition, the fluctuations of the Indian rupee and international oil prices can lead to consequences on stock prices and capital allocation. The fact that India is a big oil-importing country makes increasing crude prices lead to an increase in import and inflation costs, which negatively affects companies' profits and investors' expectations.

Foreign Portfolio Investment (FPI) can act as an additional channel for the transmission of US Treasury yields. An increase in US yields could lead to some changes in the risk-based returns offered to investors in emerging economies. Portfolio reallocations can impact the demand for Indian equities by possibly affecting their value and the movements of Nifty 50 and exchange rate. However, the relationship can also be reversed: when there is foreign selling,

equity prices may drop; in turn, falling prices can make investors pull money out of markets. Therefore, the relationship between the Treasury yields, equity returns and investment flows cannot be treated as a cause-and-effect relationship. The paper looks into the link between the changes in yields on the US 10-year Treasury bond and the performance of the Indian stock market from 2nd January, 2025 to 1st October, 2026. Based on daily data, the author produces ordinary least squares regression with returns of Nifty 50 as the dependent variable and changes in Treasury yields, USD/INR exchange rate, Brent oil prices, CBOE VIX and S&P 500 returns as independent variables. The presence of the control variables would allow the author to assess whether the Treasury-yield relationship persists after accounting for other observable domestic and international financial influences.

The research provides a close investigation of the recent financial-market changes by using a clear and dependable empirical method. Nevertheless, reliable data on daily FPI equity flows could not be sourced for the whole sample period. As a result, this research does not directly estimate the influence of Treasury rates on FPI movements. The paper only makes observations regarding the Nifty 50 returns. Therefore, the findings need to be regarded as the proof of association rather than a definitive causal relationship. Through its analysis of the correlation between the US Treasury rates and the Indian equity returns as well as the significance of the data limitations, the researche aims to answer the question of how much US interest rate dynamics can clarify the short-term movements in India's stock market.

2. LITERATURE REVIEW

The association that exists between yields of the US Treasury and the performance of finances of the developing countries has become a popular topic of research in the area of international monetary spills, global financial conditions, and international capital movements. Main point is that the shifts in interest rates in the US can influence the financial markets abroad because of portfolio reallocation, exchange-rate fluctuations, changes in appetite for risks, and altered valuations of financial instruments. Nevertheless, the empirical studies have failed to show a consistent relationship between growing yield rates in the US and the fall of prices of stocks in developing countries. The extent of spillover from the US Treasury yields is determined by the cause of yield changes, as well as the financial conditions around the globe and the characteristics of the market that experiences the spillover. This section discusses the main theoretical models in terms of the current study on Nifty 50 for the period of 2025-2026.

2.1 US Treasury Yields and International Financial Spillovers

The yields of U.S. Treasury bonds play a crucial role in the global financial market by acting as benchmarks for both investment decisions and asset values. For instance, a rise in the 10-year Treasury yield raises the cost of investing in risky assets, such as emerging-market stocks. As such, investors may either expect higher returns from these assets or opt to reduce their investments, despite the fact that the 10-year Treasury yield does not depend on one specific aspect. This yield reflects the market's expectations regarding future short-term interest rates, inflation and the additional return offered by long-term bonds. Therefore, the same increase in yield can produce a diverse range of international implications, depending on the source of the

change in the yield. For instance, Albagli et al. (2019) argue that the results of their research prove that U.S. monetary policy is transmitted to other nations. Moreover, their research shows how changes in the expected future interest rates differ from changes in the term premiums. Therefore, the researchers conclude that the impact of the U.S. Federal Reserve on global financial markets will be different in advanced and emerging currencies, given that, for the latter, term-premium movements account for an important part of the observed spillovers. These research higjhlight that the financial markets outside US are influenced by both tdomestic economic scenario as well as global financial markets.

Likewise, Mehrotra, Moessner, and Shu (2020) explore the impacts of US sovereign bond yields on the long-term rates in both developed and developing countries. They find significant international spillovers from expectations and term-premium components of US bond yields, but provided that the strength of the impact is conditioned by the component examined and the financial fragility of the recipient country. Their results challenge the idea that a rise in US yields always implies tightening in financial conditions in other markets. In relation to India, this means that the link between the daily changes in Treasury yield and that of Nifty 50 has to be empirically tested instead of being considered as valid from the very beginning of the research.

2.2 The Global Financial Cycle and Emerging-Market Assets

Another part of literature looks at the global financial cycle, which involves international asset prices, capital flows, and credit conditions moving together due to the same financial forces. Rey (2015) states that global capital flows and asset prices correlate with the VIX index, which is related to market volatility and risk appetite. Her findings show how financial conditions

in the key financial centers affect leverage, cross-border investment, and other economies' financial conditions. This approach implies that the performance of emerging markets might depend on US finance even if local economic conditions do not change significantly.

This has two implications for the current study. First of all, Treasury yields can influence the return of Indian equities due to changes in international financing conditions. Secondly, the relation observed can be the result of global finance, which influences both US Treasury yields and Indian equity markets at the same time. For instance, an increase in global uncertainty can make investors willing to accept larger risk premiums, leading to changes in Treasury yields, equity prices, and exchange rates. Hence, the regression looking at Treasury yields alone is likely to attribute effects to them that belong to broader financial conditions.

Forbes and Warnock (2012) underline the significance of global risk while examining situations regarding extreme global capital flows. The results indicate that global factors, vital being risk, are strongly linked to increases and declines in capital flows. It is also established that conclusions can be either negative or positive, depending on the method utilized in the inquiry, either when dealing with gross capital inflows, gross capital outflows or net capital flows. Even though the study does not aim to measure the connection between US Treasury yields and Indian equity returns, it brings to light the importance of the country method and accounting for worldwide conditions when studying developing countries.

2.3 Treasury Yields, Exchange Rates and Equity Valuation

Another possible means of transmission channeling of US yields to equity performance in India are exchange rates. When US yields rise in relation to other

returns, international investors may turn to dollar-denominated assets. When that happens, the US dollar may appreciate, under pressure from other currencies such as the Indian rupee. The depreciation of the rupee may translate into decreased dollar value of Indian equity holdings from the perspective of foreign investors.

Caballero and Upper (2023) have especially pertinent evidence from the analysis of the periods of fast rises of yields of US 10-year Treasury bonds. They argue that bad results for emerging markets happen more frequently if rising yields of US bonds go together with increases in the US term premium, appreciation of the dollar and rises in inflation expectation. They also state that rises in US yields result in bad outcomes for emerging markets only in some cases.

The exchange rate can also influence Indian shares through the domestic economy. A weak rupee raises the domestic cost of imports (such as crude oil), but it can also help some exporters by enabling them to be more competitive on price. The net effect of these two conflicting forces depends on how much companies rely on imports, how much foreign currency debt they carry, and what fraction of their revenues they earn in foreign currency. Given the diversity of firms included in the Nifty index, the impact of exchange rate fluctuations is likely to differ from one company to another. Thus, the inclusion of changes in the exchange rate in the model allows us to account for at least one source of variation in the performance of Indian stock prices, but it does not allow us to fully understand how changes in exchange rates influence stock prices. The valuation of equities provides an additional explanation of the relationship between Treasury yields and stock prices. Present value of expected future cash flows depends on the discount rate that is used. Higher required rates of return lower current values, especially for companies whose current

value is greatly affected by future growth. However, observed equity prices also reflect earnings expectations, risk premium and changing economic prospects. Consequently, the theoretical expectation of a negative relationship between yields and equity prices need not hold in every sample.

2.4 Foreign Portfolio Investment and Indian Equity Markets

Foreign portfolio investment may hold great significance in the transfer of global financial developments to Indian stock prices. Foreign investors may modify their investments as per changes in relative returns, currency risk and global risk appetite. Large scale investment buying or selling can have an effect in the market and may accompany moves in indexes. Nevertheless, the relation between portfolio flow and stock returns may well be two-sided: investment flows impact prices while price movements impact investment decisions.

According to Forbes and Warnock (2012), global financial conditions can be linked to episodes of flow moves. As they distinguish between foreign investor surges and puts and domestic investor flight and retrenchment, they point out why net capital flow figures may mask critical differences in investor behaviour. Rey (2015) emphasizes the connection between international flow movements and movements in asset prices and global financial conditions. Thus, these works give a theoretical foundation to the idea of FPI as a possible channel through which changes in the yield of US can affect the performance of the emerging-market stocks.

Even though, the present research is unable to test the above-mentioned channel directly as the consistent daily FPI equity-flow series is unavailable for the entire observation period. Therefore, the literature on portfolio flows guides the theoretical interpretation, but it does not provide direct empirical

evidence of the behaviour of FPI in India during the study period. As a result, the paper limits its econometric analysis to Nifty 50 returns and does not make conclusions about the significance or the size of the link between treasury yields and Indian FPI.

2.5 Methodological Considerations and Research Gap

Various methodological challenges arising in the literature help in the estimation of various international financial spillovers. The first challenge that one needs to keep in mind is that any changes observed in the Treasury yield may have occurred in response to different economic shocks that have been present in different countries, which may exert different effects on the various emerging markets. Besides, there can be many common global factors at play that can impact both Indian stocks prices and US yields, thus making it possible that the resulting correlation is not equivalent to causation.

The challenges discussed above are addressed partially in this research that establishes the correlation between the Nifty 50 and the changes in the US Treasury yields over a certain period of time, thus considering also the fluctuations in the USD/INR exchange rate, the prices for Brent oil, VIX fluctuations, and the dynamics of S&P 500 returns.

The value of the present investigation is its assessment of the data on daily market activity for the period of January 2025 to October 2026 in a transparent empirical manner. The findings can then be compared with the literature to determine whether the negative association between increasing yields in the USA and equity values in emerging markets can be seen during this time period. Furthermore, the study makes it apparent that various theoretical mechanisms have to be separated from the relationships that can be obtained through existing data. Unfortunately, since there was

no sufficient data on FPI, the current research is unable to confirm whether any portfolio flows have been responsible for the relationship between Treasury yields and Nifty returns. This limitation distinguishes the direction for further investigations based on sufficient data on daily or monthly FPI and more specific methodology in regard to the unexpected changes taking place in the US financial conditions.

Thus, the available literature indicates that the US Treasury yields can affect the financial condition in emerging markets via international allocation of assets, exchange rates and global risk-taking behavior. Nevertheless, the influence does not happen uniformly. Thus, the problem is not simply that treasury yields rose while Indian equities plummeted, but rather whether changes in yields reveal an independent statistical association with Nifty returns once other observable financial factors have been considered. This problem creates a basis for the empirical study presented in the subsequent sections.

3. DATA AND METHODOLOGY

3.1 Data Sources and Study Period

This research employs secondary datasets to study the correlation between the fluctuations in the US 10-year Treasury rates and the Indian stock market, as reflected in the Nifty 50 index. The analysis includes the period spanning from 2nd January 2025 to 1st October 2026 and the data has been obtained from the NSE and the Federal Reserve Bank of St. Louis which were then organised and processed in Microsoft Excel. The dataset includes the daily figures on large financial-market indicators in India and the US which helps the research study to find the connection between the changes in US treasury rates and Indian stock market returns.

The data set includes seven original variables: date, closing value of Nifty 50, closing value of S&P 500, CBOE Volatility Index (VIX), Brent crude oil price, USD/INR rate, and US 10-year Treasury yield. These variables are chosen for their ability to represent various forms of the global and local financial cosmic. The Nifty 50 is a measure of the Indian stock market performance, whereas the US 10-year Treasury yield tracks changes in long-term government borrowing costs and market expectations of interest rates. The S&P 500 reflects US stock market behaviour while the VIX serves as a measure of expectations of volatility in the US market. Both Brent crude prices and USD/INR rates are considered as fluctuations in international oil prices and currencies might affect Indian financial markets through import costs, inflation expectations, and investor sentiments.

The raw data includes 408 samples of the raw series. Nevertheless, the regression analysis relies on 407 samples since calculating daily returns and changes necessitates the use of the prior sample. Although the original research question accounted for foreign portfolio investment (FPI) movements, we could not gather an appropriately coherent dataset that includes the entire research period. Consequently, we disregard the FPI and concentrate on the relations between variations in the yield rate on US treasuries and the Nifty 50 index returns.

3.2 Data Processing and Variable Measurement

Data was processed using the Microsoft Excel application in chronological order and was transformed from original finance variables into daily returns and changes prior to being imported into Stata for regression analysis. This was done in order to clarify if daily changes in Treasury yield

correlate with daily change in Indian market performance and not simply to assess the long-term values of the financial variables in question.

Daily Nifty 50 returns were calculated as a natural logarithm of the current day closing value divided by the previous day closing value multiplied by 100, giving an approximate value of daily percentage return on the index. As for the change in the US 10-year Treasury yields, it was calculated by subtracting the yields of the previous observation from the current observation. It indicates that the Treasury variable measures the change in the yield in percentage points rather than the percentage change in yield itself.

Daily percentage changes were calculated for the USD/INR exchange rate and Brent crude oil prices. What was done to obtain the changes in the VIX was to take today's closing value and subtract the previous day's close. The daily S&P 500 return calculation was similar to that of Nifty 50 returns in that it also uses the same formula of logarithmic return. As a result, six derived values—Nifty 50 returns, changes in Treasury yields, changes in USD/INR, changes in the prices of Brent crude oil, changes in the VIX, and S&P 500 returns—were generated. The first observation for each derived variable was placed as missing for the reason that there was no preceding observation allowing the calculation of the daily change.

3.3 Graphical and Econometric Analysis

The analysis was conducted in two stages. In the first step, graphical analysis of Nifty 50 index, US 10-year Treasury yield, S&P 500 index, USD/INR exchange rate, VIX index, and Brent Crude Oil prices was done using time series charts to review how these variables behaved over the period in question and understand the major movements and patterns over time. Graphical analysis gives an overview of what happens in the market and indicates

patterns that require further examination; however, similarities in the behavior of two variables do not confirm the existence of a causal relationship.

In the second step, multiple linear regression analysis was done and OLS was used in order to create the regression model using Stata. The dependent variable was the return of Nifty 50 index, while the explanatory variable was the daily change of US 10-year Treasury yield and other control variables were represented by change of the USD/INR exchange rate, the price of Brent Crude Oil, its volatility index (VIX), and S&P 500 index. The regression equation is as follows:

$$NiftyReturn_t = \beta_0 + \beta_1 TreasuryChange_t + \beta_2 USDINRChange_t + \beta_3 BrentChange_t + \beta_4 VIXChange_t + \beta_5 SP500Return_t + \varepsilon_t$$

The regression estimates how the changes in Treasury yield affect the performance of the Nifty 50 index. The coefficient attached to Treasury yield (β_1) is the main focus as a positive coefficient denotes a positive conditional relationship, while a negative coefficient shows a negative conditional relationship. P-values and confidence intervals are used to assess individual coefficients' significance statistically. The R-squared statistic captures the percentage variation in Nifty 50 returns that the model can explain, whereas the overall F-test indicates whether the explanatory variables are statistically significant jointly.

The results are interpreted to represent conditional relationships rather than causation. In addition, the financial market data may have heteroskedasticity and autocorrelation as well as different market-closing times between India and the USA complicating the interpretation of the same-date observations. Therefore, the use of alternative specifications with lagged variables from the US market and especially the use of robust standard errors would allow for static verification of the model

estimates and should be taken into account while interpreting our results.

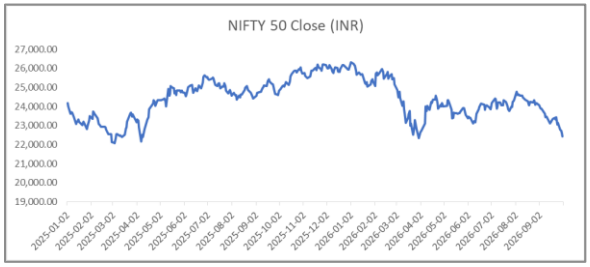
4. RESULTS

4.1 Graphical Analysis of Financial Market Variables

The analysis shown in graphical form gives some information about the changes in the Indian stock market and chosen international financial indicators in the period from January 2025 to October 2026. The time series charts demonstrate large changes in different variables which means that the analyzed time period has experienced multiple periods of uncertainty in the financial markets, various changes in currencies, and changes in the price of commodities in the world. All these changes provide some description of the following regression analysis.

The Nifty 50 figure illustrates that the Indian stock market experienced numerous ups and downs in a given period. The value of the index decreased in the initial months of 2025, but it later increased, and reached the highest closing value of the period under scrutiny, i.e. 26,328.55 on 2 January 2026, although this growth model did not continue in the subsequent periods. The index was subject to significant losses in March and April 2026, during which it managed to return to the previous value; however, the overall period under consideration shows fluctuations of the value. In summary, it can be stated that on 1 October 2026, the Nifty 50 fell to 22,421.95, which is lower than the initial figure of 24,188.65 of 2 January 2025. Such a movement demonstrates that although the index value managed to increase in certain periods, the overall trend demonstrates that the Indian stock market decreased over the entire period of investigation because of the mentioned recoveries. Nevertheless, it is worth mentioning that fluctuations of the index

level cannot prove that the fluctuations are being caused by the US Treasury yields.



The above figure highlights the Nifty 50 Index from January 2025 to October 2026.

Source: *NSE*

The US 10-year Treasury yield has generally remained in the 4-5% range for the most part of the study, although it has experienced some fluctuations. The yield was 4.57% on January 2, 2025, and then decreased during some months of 2025, fluctuating in the lower to middle 4% range. The yield reached its minimum of 3.97% on February 27, 2026, after which its growth rate increased. By October 1, the yield was 5.24%, which was very close to the maximum of 5.29% achieved on September 30, 2026. Significantly, the increase of the Treasury yield was accompanied by the decrease of the Nifty 50 index, which provides the basis for researching the relationship between the two markets, even though this evidence does not establish the causality of this relationship.

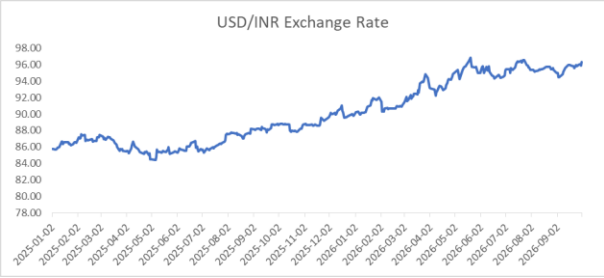


The above graph depicts the 10-Year US Treasury Yield from January 2025 to October 2026.

Source: *Federal Reserve Bank of St. Louis*

The chart for the exchange rate between INR and USD reflects an overall positive trend, pointing towards the weakening of INR in the process. According to the chart, the exchange rate has lifted off from 85.75

as at January 2025 to 96.32 as at October 1, 2026, peaking at 96.82 on May 20, 2026. The increasing trend became particularly visible during the second part of 2025 and in the first half of 2026. A weaker rupee can affect the performance of Indian stock market as a result of imported inflation, high input costs for businesses, foreign-currency liabilities and changed currency returns. Therefore, the fluctuations in the exchange rates should be analyzed because they are relevant for understanding the relationship between the US Treasury yield and Indian stock market returns.



The above figure shows the USD/INR exchange rate from January 2025 to October 2026

Source: *Federal Reserve Bank of St. Louis*

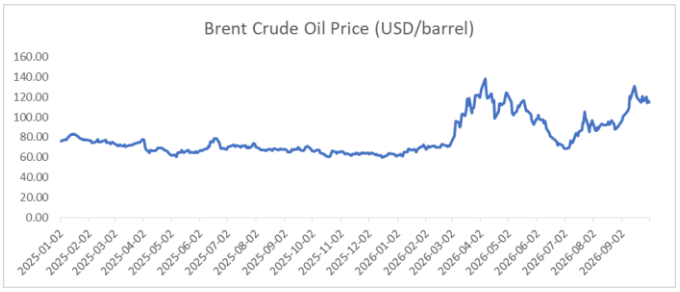
When looking at the S&P 500 chart, one can observe an upswing trend, with a significant downtrend occurring in April 2025. On April 8, 2025, it registered its minimum closing price of 4,982.77 and retrieved its value afterward, reaching its maximum value of 7,798.99 on August 13, 2026. By October 1, 2026 the closing price was 7,666.45. Interestingly, the VIX index reached its peak of over 52.33 in April. It went down afterward, but the index climbed up during the periods of uncertainty. The simultaneous peak of the VIX index and downtrend in S&P 500 means that the market went through a very turbulent period. However, one cannot tell the reasons of the shift from the charts.



The above figure highlights the S&P500 from January 2025 to October 2026.

Source: *Federal Reserve Bank of St. Louis*

In this phase, Brent crude oil prices underwent relatively considerable oscillations. The price increased from 76.14 US dollars a barrel at the beginning to the peak of 138.21 dollars on 7 April 2026 and decreased thereafter whilst recovering after that. According to the data from 1 October 2026, Brent crude oil traded at 114.82 dollars a barrel. The above changes are related to the case of India given that fluctuation of oil prices may cause the changes in import spending, inflation, company profits and forecasting the domestic economy. Overall, the graphical analysis implies that this phase is characterized by simultaneous shift in financial indicators.



*The above graph shows the prices of Brent Crude from Januray 2025 to October 2026(****Source:*** *Federal Reserve Bank of St. Louis).*

4.2 Multiple Regression Results

In order to analyze these relationships in a more systematic manner, an ordinary least-squares multiple regression was conducted on a set of 407 observations. The dependent variable was taken as the daily percentage return of Nifty 50, while the independent variables included daily changes in the yield on the US Treasury 10-year bond, the USD/INR exchange rate, as well as the cost

of Brent crude oil and VIX along with daily return of S&P 500 index.

	(1)
VARIABLES	**Nifty 50 Model**
TreasuryChange	1.5746*
	(0.8624)
USDINRChange	-0.9032***
	(0.1224)
BrentChange	-0.0194
	(0.0130)
VIXChange	-0.0243
	(0.0407)
SP500Return	0.0587
	(0.0781)
Constant	0.0041
	(0.0395)
Observations	407
R-squared	0.1533

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The above table shows the coefficients of the regression analysis.

***Source**: Author*

The regression model is statistically significant overall. The F-statistic is 14.52, with a reported probability value of 0.0000. This indicates that the explanatory variables are jointly statistically significant under the conventional OLS inference used in the reported output. Apart from this, it can be stated that the included explanatory variables provide statistically significant information about the dependent variable in the model being estimated. Moreover, the R-squared value of the model is equal to 0.1533, which means that the selected explanatory variables explain 15.33% of the variation in Nifty 50 daily returns. The rest of the daily variations can be caused by economic, financial, political and firm level factors and other factors beyond one's control.

The significant variable under consideration is the change in the US 10-year Treasury yield. The coefficient estimated is 1.5746, with a standard error of 0.8624, a t-statistic of 1.83, and a p-value of 0.069. The presence of the positive coefficient suggests the increase in the Treasury yield in terms of an increase in Nifty 50 daily return against other factors in the impact. Given that the Treasury yield variable is measured in percentage points, and the Nifty 50 return is given in percentage terms, one should note that the positive increase by 0.01 percentage point in the yield would mean a rise by about 0.0157 percentage points in Nifty 50 return, other variables being kept unchanged.

Nevertheless, this coefficient is statistically significant only at the 10 percent level rather than the usual 5 percent level. At the same time, the coefficient's 95 percent confidence interval spans approximately -0.1208 to 3.2700, thus also including zero. As a consequence, the analysis does not yield firm evidence at the 5 percent significance level that the daily behavior of the US Treasury yields affects Nifty 50 returns. Furthermore, the alleged positive effect of US yields on Indian stock yields contradicts a simple expectation that an increase in US yields should go with the fall in returns from Indian stocks. Thus, the result suggests that the relationship may be more complex than a direct negative association, but it should be interpreted cautiously because the coefficient is only weakly significant under conventional standard errors.

Among various control variables, the USD/INR exchange rate change displays the most significant statistical relation with Nifty 50 daily returns. Its estimated coefficient is -0.9032, with a standard error of 0.1224, the t-statistic is -7.38, and the p-value is below 0.001. The negative sign of the coefficient means that the depreciation of rupee leads to a smaller daily Nifty 50

return assuming the other variables remain the same. In simpler terms, a 1% increase in the USD/INR exchange rate translates into an approximate decrease of 0.903 percentage points in the Nifty 50 return. The confidence interval at 95%, around -1.1437 to -0.6626, does not include zero. This indicates strong statistical proof regarding a negative conditional relationship in the estimated model. However, the regression does not prove that the changes in exchange rate cause a decrease in stock market returns as both variables may be influenced by some common economic and financial factors.

The value of the estimated coefficient for changes in Brent crude oil prices has a value of -0.0194, and the p-value is 0.137. The negative sign of this coefficient supports the view that higher oil prices might impact Indian stock markets because of higher import and inflation costs. However, the coefficient is not statistically significant at the level of 10 percent and its 95 percent confidence interval contains zero. Thus, the results provide us enough evidence to conclude that there is no independent relationship between day-to-day changes in oil prices and Nifty 50 returns in this model.

The value of the coefficient of changes of the VIX is -0.0243 and its p-value is 0.550. The fact that it is negative indicates that rising US market uncertainty is likely to correlate with lower Indian equity returns; however, this result does not have any statistical significance. The coefficient of the S&P500 returns of 0.0587, despite being positive, also has a p-value of 0.453, indicating that the result does not have much significance.

4.3 Overall Interpretation

The analyses of the graph and regression reveal a complex relationship of US Treasury yields and the Indian stock market for the time period from January 2025 to October 2026. According to graphical data, Nifty 50 stock index value dropped down

toward the final days of the sample, and the yields of the Treasury bond rose, however, the regression does not substantiate a statistically significant association of the yield variation and the rate of return of the Nifty 50 index at the 5% significance level. The variation of the exchange rate in comparison, has a brilliantly negative and statistically significant effect on equity performance in India. This means that it is impossible to correctly assess the relationship between the rate of return of US Treasury bonds and the stock returns in India through visual presentation alone. The results depend on the variables involved, time period of data being analyzed, and chosen OLS regression specification. In addition, econometric estimates are based on regular standard errors meaning that conclusions should be reconsidered with the use of heteroskedasticity-consistent standard errors and taking into consideration time differences between Indian and US markets. Lastly, the unavailability of reliable information concerning FPI flow makes it impossible to define the effect of US treasury yield movements on Indian FPI flows. The empirical conclusions are therefore limited to the observed association between Treasury yield changes and Nifty 50 returns.

5. CONCLUSION

The study investigated the relationship between changes in the United States ten-year Treasury rates and the performance of the Indian stock market as measured by the daily Nifty 50 returns from January 2, 2025 to October 1, 2026. The results of the study provides a qualified conclusion regarding the relationship between US finance and equity performance in India.

The graphical analysis also identified significant changes in the various financial conditions during the period under review.

The Nifty 50 made several attempts to recover from its downward trend during the analyzed period but closed the observation period negatively. At the same time, the US 10-year treasury yield increased and reached nearly 5.24 per cent on 1 October 2026. The direct exchange rate of the USD/INR currency pair also increased, which means that the rupee was depreciating against the dollar. The Brent Crude prices were volatile, and April 2025 saw the peak of VIX indicator. This means that the environment in which the Indian market operated was changing. But it cannot be said that the graphical data presented sufficiently proves that the changes in Treasury's yield made Indian stocks move.

The findings of the regression yield stronger indications about the relationship between the two variables. The coefficient associated with changes in US 10-year Treasury yield, estimated at 1.5746 is positive, while the p-value is 0.069. While the findings indicate statistical significance at the level of 10 per cent based on the general OLS standard errors, these findings do not reach the level of significance of 5 per cent. Also, the confidence interval of 95 per cent includes zero. In this regard, the statistical analysis does not provide sufficient evidence for claiming a statistically significant relationship between the changes in Treasury yields on a daily basis and returns on Nifty 50 stocks at the level of 5 per cent. The fact that the coefficient is positive also shows that the estimated relationship is inconsistent with the assumption that the increase in the US Treasury yields corresponds with the decrease in the returns on Indian stocks.

Out of all the control factors, fluctuations in USD/INR exchange rate demonstrated the highest level of statistical relationship with returns from the Nifty 50 basket of shares. The coefficient value was negative as well as statistically important at the 1%

significance level, indicating that weak daily equity returns in India are driven by rupee depreciation, considering other factors in the model. Nevertheless, fluctuations in Brent market average prices, VIX and S&P 500 returns were found to be statistically non-important according to the commonly used statistical tests. Overall regression is statistically significant with R-squared value equaling 0.1533, implying that the considered variables could explain up to 15.33% of variations in Nifty 50 daily returns. The observed variations mean that there must be other influencing factors that the model does not take into consideration.

The limitations of the methods used in this research should be taken into account while interpreting the findings. First, the analysis examines only a narrow time range, and the correlations found in this study may have been different if the study was conducted during different time periods or in different conditions. Second, the model estimates the conditions under which two or several variables are correlated rather than identifies any reasons and implications concerning the bond yields and shares price relationship. Third, some possible issues related to endogeneity may arise. Finally, while the main question in this study was concerning FPI investment flows, that did not allow for analysis of the influence of Treasury yield changes on Indian equity returns via the influence on investments of three other countries.

Future studies ought to prolong the period of observation and involve the use of FPI data to determine the short- and long-term effects of news on the markets. Additionally, the analysis of events related to important US monetary policy announcements and the use of alternative econometric methods might throw some light at the mechanisms of US financial condition changes on India.

To summarize, it can be stated that the relationship between US 10-year Treasury

yield changes and Indian stock market performance is regarded as undefined according to the results of the regression analysis. The trends observed in the last period are worth investigating further but show no cause-and-effect relationship. A more reliable finding is that there is a significant negative correlation between the fluctuations of the Indian rupee and the Indian stock exchange index. In general, it can be concluded that financial relationships between the performance of the US financial market and the Indian market are very complex and that an increase in the US Treasury yields does not imply the decline of the Indian stock market.

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