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# MARKET VOLATILITY IN INDIA: THE PUSH AND PULL EFFECTS OF FOREIGN INSTITUTIONAL INVESTORS

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## ABSTRACT :

This research examines the complex connection between market fluctuations in India and the investment actions of Foreign Institutional Investors (FIIs), emphasizing the factors that attract or repel capital movements. In the last ten years, FIIs have been essential in influencing the dynamics of Indian equity markets, frequently serving as an indicator of investor sentiment and economic perspective. A variety of global and local factors shape their investment choices, positioning them as both a source of funds and a potential catalyst for market instability.

The study investigates the impact of push factors like global interest rate fluctuations, inflation dynamics, and geopolitical occurrences on Foreign Institutional Investors' (FIIs) movement in emerging markets, while pull factors such as India's economic expansion, policy changes, political stability, and corporate success either encourage or discourage investment. The research examines how much these factors influence variations in FII inflows and outflows, and how these changes consequently impact market volatility in India.

Results indicate that although FIIs play a crucial role in short-term volatility, particularly during periods of uncertainty or economic change, their actions are primarily influenced by the global external landscape and the robustness of domestic fundamentals. The study emphasizes that definitive and uniform policy structures, economic strength, and investor trust are crucial for market stability and maintaining a consistent influx of foreign investment.

The study delivers valuable insights for investors, regulators, and policymakers by presenting a thorough understanding of the factors influencing FII behavior and their effects on market stability. It highlights the significance of establishing a supportive atmosphere that reconciles openness to foreign investments with strategies to protect against sudden capital flows and market disturbances.

**Keywords :** Foreign Institutional Investors (FIIs), market volatility, India VIX, emerging markets, capital movements, stock market fluctuations, Indian equity market.

## Introduction

The Indian financial market has experienced a significant change in the last few decades, marked by liberalization, globalization, and a surge of foreign investment. Among the different contributors to capital movements, Foreign Institutional Investors (FIIs) have become a crucial force impacting market dynamics. FIIs, influenced by a combination of global (push) and domestic (pull) factors, frequently bring both stability and volatility to emerging markets such as India.

Market volatility, indicating the extent of fluctuation in trading prices over time, is a significant issue for investors, regulators, and policymakers. Although volatility may offer chances for significant profits, extreme fluctuations discourage long-term investments and create systemic risks. The relationship between FII actions and market volatility in India is intricate, shaped by various elements such as global economic circumstances, domestic policy changes, and investor confidence.

This research intends to examine this interaction by evaluating push factors including alterations in U.S. Federal Reserve policy, global risk appetite, and international economic crises, along with pull factors such as Indian GDP growth, inflation management, political stability, and corporate earnings performance. Through the analysis of these factors, the study aims to evaluate the impact of FII flows on market volatility in India and how they are affected by it. Grasping these dynamics is essential for creating policies that can boost market resilience and draw in stable foreign investments.

## Literature Review

1. "An Empirical Analysis of the Impact of FIIs on Volatility of Sensex and Nifty"

Authors: Dr. Sapna and Dr. Arwinder Singh

## Year: 2024

This study explores the different impacts of FIIs on two primary Indian stock indices—Sensex and Nifty. The authors examined daily data from 1999 to 2022 employing different GARCH family models, such as GARCH, T-GARCH, EXP-GARCH, and M-GARCH. The results indicate that FIIs have a considerable effect on the variability of Sensex returns, whereas their effect on Nifty is not statistically significant. Additionally, it is observed that volatility exhibits asymmetry—negative shocks exert a greater influence than positive shocks. The exponential GARCH model offered the best fit, highlighting the significance of considering asymmetry in volatility assessment. The research highlights the importance of taking index structure into account when assessing FII impacts.

Citation: Sapna, & Singh, A. (2024). An empirical analysis of the impact of FIIs on volatility of Sensex and Nifty.

#### 2. "Impact of FIIs Investment on Volatility of Indian Stock Market: An Empirical Investigation"

## Authors: Bashir Ahmad Joo and Zahoor Ahmad Mir

## Year: 2014

This research examines the connection between FII inflows and the volatility of the Indian stock market, concentrating on Sensex and Nifty during a 15-year duration (1999–2013). By employing statistical methods such as standard deviation, correlation, and GARCH modeling, the research determines that FIIs significantly influence stock market volatility. The authors contend that although FIIs enhance market efficiency and liquidity, their transactions also increase volatility, particularly during periods of market strain. The article emphasizes the dual role of FIIs as both liquidity providers and contributors to instability, calling for thoughtful policy measures to regulate foreign capital movements.

Citation: Joo, B. A., & Mir, Z. A. (2014). Impact of FIIs investment on volatility of Indian stock market: An empirical investigation. Journal of Business & Economic Policy, 1(2), 106–110.

#### 3. "Volatility of Indian Stock Market and FIIs" Author: Krishna Reddy Chittedi

#### Year: 2009

This study examines the historical performance of the Sensex and assesses how much FIIs impact its volatility and liquidity. The author concludes that FII activity significantly influences both price volatility and trading volumes. The research offers anecdotal and empirical data from 2006–2008 illustrating how FII actions influence market cycles, especially during bull markets and downturns. It highlights that greater FII involvement in midcap and small-cap shares boosts overall market activity but could also bring about risk. The study concludes that although FIIs are crucial for market expansion, their speculative actions may lead to considerable volatility.

Citation: Chittedi, K. R. (2009). Volatility of Indian stock market and FIIs. SSRN. https://ssrn.com/abstract=1358882

#### 4. "Study on Impact of Foreign Institutional Investment on Indian Stock Market in Reference to Nifty and Sensex"

#### Authors: Mr. Omer Fareed Mohammed and Dr. S. C. Behl

## Year: 2020

This research explores the impact of FIIs on Indian markets, particularly the Nifty and Sensex indices. It highlights the twofold function of FIIs enhancing capital inflows and market expansion, while also inducing instability during times of abrupt exits. The paper examines how global financial crises, like that of 2008, revealed weaknesses in India's reliance on foreign investment. It additionally examines previous research on asymmetric volatility trends and investor sentiment, determining that negative return shocks impact India VIX more significantly than positive return shocks. The authors suggest enhanced regulatory supervision to shield domestic markets from extreme volatility driven by foreign institutional investors (FII).

Citation: Mohammed, O. F., & Behl, S. C. (2020). Study on impact of foreign institutional investment on Indian stock market in reference to Nifty and Sensex. The Genesis, 7(1), January–March 2020.

#### 5. "An Empirical Investigation of the FII activity on volatility in Stock Market - Indian Evidence"

## Authors: Jnaneshwar Pai Maroor

### Year: 2014

This study explores the influence of Foreign Institutional Investors (FIIs) on the variations of the BSE Sensex between 2007 and 2012. The research employs correlation analysis using Karl Pearson's Coefficient to evaluate the relationship between FIIs and the performance of the Sensex. The study reveals a significant connection between FII operations and the variations in the Indian stock market, particularly the BSE Sensex. It additionally analyzes the investment habits of FIIs and their sector-specific preferences. The findings suggest that FIIs contribute to market growth and volatility, with local investors keeping a watchful eye on their actions.

Citation: Maroor, J. P. (2014). An Empirical Investigation of the FII activity on volatility in Stock Market – Indian Evidence. *Pacific Business Review International*, 6(11).

## 6. "Impact of FIIs on Indian Stock Market (Specific to SENSEX)" Authors: Naresh Kedia & Prof. (Dr.) Anil Vashisht

## Year: 2017

This study investigates the relationship between FII inflows and the performance of the BSE Sensex from January 2003 to December 2012. By conducting correlation analysis, the study confirms a significant positive relationship between FII activity and market performance. The authors argue that the increasing participation of FIIs significantly influences both the volatility and the progress of the Indian stock market. This research emphasizes the crucial role of FIIs as a key driver of market changes.

Citation: Kedia, N., & Vashisht, A. (2017). Impact of FIIs on Indian Stock Market (Specific to SENSEX). International Journal of Management, IT & Engineering, 7(5).

## 7. "Impact of FIIs on Indian Stock Market with Special Reference to BSE and NSE Index"

## Author: G. Swapna

## Year: 2018

This research examines the influence of FIIs' buying, selling, and net investments on the BSE Sensex and NSE Nifty indices, utilizing data from 2005-06 to 2016-17. The findings indicate that FIIs have a considerable impact on the fluctuations of these indices. The research finds that FIIs significantly influence stock market behavior and can serve as either a stabilizing or destabilizing factor based on the market conditions. **Citation**: Swapna, G. (2018). Impact of FIIs on Indian Stock Market with Special Reference to BSE and NSE Index. *International Journal of Accounting and Financial Management Research*, 8(5), 15-24.

## 8. "Investigating Effect of FII on Indian Stock Market - A Study in Indian Diaspora"

Authors: Omkar S Chitnis, Priyanka Khanzode, Amit Kanchanbaras

#### Year: 2022

This paper examines the influence of FIIs in the Indian stock market, concentrating on stock performance, volatility, and market reliance. The research analyzes the market's response during significant financial crises such as COVID-19 and emphasizes that FIIs have a considerable impact on the fluctuations and movement of indices such as Nifty and Sensex. It suggests that the Indian stock market is very responsive to FII inflows and worldwide financial sentiments.

Citation: Chitnis, O. S., Khanzode, P., & Kanchanbaras, A. (2022). Investigating Effect of FII on Indian Stock Market – A Study in Indian Diaspora. UNNAYAN, 14(2).

#### 9. "Impact of International Financial Flows on Indian Stock Markets - An Empirical Study"

Authors: K.S. Venkateswara Kumar & V. Rama Devi

#### Year: 2013

This empirical research analyzes data from 2001 to 2012 to assess the effects of FDI and FII on Indian stock markets through correlation and regression methods. It identifies that both FDI and FII are crucial factors influencing stock market performance and volatility. The research highlights the importance of foreign investment as a facilitator of growth and a possible risk element, especially because of the temporary nature of FII investments. **Citation**: Kumar, K. S. V., & Devi, V. R. (2013). Impact of International Financial Flows on Indian Stock Markets – An Empirical Study. *SSRN Electronic Journal*.

## 10. "Study on Impact of FII in Indian Stock Market" Authors: V. Sri Raman, P. Gomu Prakash, K.V. Dinesh

#### Kannaa Year: 2024

This recent research explores the intricate connection between FIIs and the Indian stock market, with particular emphasis on volatility and sectorspecific effects. The study indicates that FII inflows greatly impact market sentiment and performance, especially during times of economic uncertainty. It utilizes up-to- date information to illustrate investor behavior in real-time, indicating that both direct and indirect FII activities have quantifiable impacts on the market.

Citation: Raman, V. S., Prakash, P. G., & Kannaa, K.V.D. (2024). Study on Impact of FII in Indian Stock Market. International Journal of Research Publication and Reviews, 5(6), 3653–3659.

#### 11. "Volatility Contagion between Indian and World Stock Markets: Empirical Evidences"

Authors: Karam Pal Narwal, Ruhee Mittal, and Purva Chhabra

#### Year: 2017

This research examines the effects of volatility spillover between India and key developed markets through the use of GARCH-BEKK and VAR models.

Utilizing implied volatility indices (India VIX, VIX, VCAC, VSTOXX), the research verifies the existence of two-way volatility contagion between India and various international markets. It emphasizes the consequences for global investors and policymakers regarding portfolio diversification and managing systemic risk.

Citation: Narwal, K. P., Mittal, R., & Chhabra, P. (2017). Volatility Contagion between Indian and World Stock Markets: Empirical Evidences. In *Management Insight: A Glimpse of Contemporary Research*.

## **Research Gap**

Although there has been considerable research on how Foreign Institutional Investors (FIIs) affect stock market dynamics, noteworthy gaps persist in comprehending the subtle effects of their capital movements on market volatility specifically within the Indian context. Current research primarily concentrates on either the overall impact of FII inflows on general market indices or on immediate correlations with volatility metrics. Nevertheless, few have thoroughly investigated the combined impact of push factors (including global interest rate changes and geopolitical tensions) and pull factors (such as domestic economic expansion, policy reforms, and market stability) that influence FII behavior and, in turn, impact volatility. Additionally, although GARCH models have been utilized in several studies, there has been little focus on analyzing these results alongside actual events, regulatory actions, and investor emotions. Furthermore, there is an absence of recent analysis that addresses market behavior after 2020, encompassing the volatility and recovery periods prompted by the pandemic. This study seeks to address these gaps by providing a more cohesive and up-to-date examination of the interaction between global and domestic factors that affect FII flows and their subsequent effect on market volatility in India.

## **Objectives of the Study**

- 1. To investigate the connection between Foreign Institutional Investor (FII) inflows and market volatility in the Indian stock market.
- 2. To recognize and examine the main global (push) factors—like worldwide interest rates, inflation, geopolitical conflicts, and global monetary policies— that affect FII investment patterns in India.
- 3. To examine domestic (pull) elements—like GDP growth, policy changes, inflation patterns, and corporate profits—that draw in or deter FIIs from Indian financial markets.
- 4. To evaluate the immediate and lasting impacts of FII inflows and outflows on stock market fluctuations and investor confidence in India.
- 5. To examine how foreign institutional investors react to significant economic or political occurrences, both international and local, and how these reactions affect market stability.
- 6. To offer perspectives on how regulatory structures and policy measures can stabilize FII flows and reduce negative impacts on market volatility.
- 7. To provide suggestions for policymakers and investors on handling the risks and opportunities linked to FII-induced volatility in Indian capital markets.
- To distinguish the effects of FII flows on different sectors of the Indian stock market and to comprehend sector-specific volatility trends influenced by foreign investments.
- 9. To analyze the behavioural trends of FIIs in times of market stress or economic instability, including financial crises, pandemics, or elections, and how these instances influence their investment approaches in India.
- 10. To assess the efficiency of existing market systems and regulatory frameworks (like SEBI guidelines or capital restrictions) in controlling the volatility associated with foreign institutional involvement.

## **Theoretical Framework**

The theoretical basis of this study is rooted in three essential financial theories: the Capital Flow Theory, the Efficient Market Hypothesis (EMH), and the Push- Pull Theory of Capital Movements. The Push-Pull Theory describes the international flow of capital as a reaction to external "push" influences—such as differences in interest rates, inflation in advanced nations, global risk tolerance, and policies from central banks—and internal "pull" influences, including robust GDP growth, macroeconomic stability, liberalized reforms, and appealing corporate results in emerging markets like India. FIIs react dynamically to these global and local indicators, and any major changes lead to volatile capital flows that affect market behavior. The Capital Flow Theory indicates that investors aim to enhance returns and reduce risks by shifting capital to advantageous markets. Nonetheless, in markets such as India, this frequently results in heightened short- term volatility driven by herd behavior, information asymmetry, and a lack of market depth. In addition, the Efficient Market Hypothesis (Fama, 1970) posits that markets operate rationally and that all existing information is already incorporated into the prices of assets. Nonetheless, the erratic actions of FIIs— frequently influenced by speculation, international economic updates, or market gossip—can lead to irrational price fluctuations, questioning the concept of market efficiency. Within this structure, the primary variables examined consist of stock market volatility (dependent variable), FII flows, global interest rates, inflation, GDP growth, and reforms (independent variables), while political stability and the regulatory environment function as moderating variables, and investor sentiment, exchange rates, and corporate performance act as mediating variables. This framework facilitates an extensive examination of how FIIs, shaped by global and domestic factors, impact volatility in the Indian stock market.

## **Key Variables in the Framework**

Dependent Variable	Stock Market Volatility (e.g., Nifty/Sensex fluctuations, India VIX)
Independent Variables	FII Inflows/Outflows, Global interest rates, Inflation, GDP growth, Reforms
Moderating Variables	Political stability, Policy changes, Regulatory frameworks
Mediating Variables	Investor sentiment, Exchange rate fluctuations, corporate performance

## **Research Methodology**

This research utilizes a quantitative and exploratory approach, depending solely on secondary data to analyze the effect of Foreign Institutional Investor (FII) inflows on market volatility in India. Information regarding FII inflows and outflows has been obtained from official sources like the National Stock Exchange (NSE) and SEBI, while market fluctuations are assessed using the India

VIX (Volatility Index), which indicates investor anticipations of short-term volatility. Other macroeconomic indicators—like GDP growth, inflation rates, global interest rate movements (especially U.S. Federal Reserve policy), and exchange rates—act as contextual push and pull factors and are sourced from

RBI bulletins, World Bank, IMF, and various government databases. The research spans several years, enabling an in-depth examination of trends under various market scenarios. In order to examine the connection between FII flows and market volatility, the research employs descriptive statistics to uncover patterns, correlation analysis to evaluate the strength and direction of relationships, trend analysis for graphical depiction of changes, and regression analysis to measure the effect of FII flows and economic variables on volatility. The focus is restricted to the Indian equity markets, emphasizing the impact of foreign capital flows on market dynamics during both calm and chaotic times. Although the methodology provides valuable statistical insights, the research recognizes limitations including dependence on secondary data, absence of micro-level detail, and the reality that regression reveals associations rather than definitive causations.

## **Data Analysis and Findings**

## **Descriptive statistics**

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[1]:	import pandas as pd										
[3]:	<pre>df = pd.read_csv("C:/Users/aksha/OneDrive/Desktop/MBA 3RD SEM/MRSL/India VIX Historical Data.csv")</pre>										
[5]:	df.head()										
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#### Interpretation of descriptive statistics

From the descriptive statistics of the India VIX dataset, we can extract multiple insights regarding market volatility throughout the examined timeframe. The dataset includes 120 observations for every variable: Price, Open, High, and Low. The average value of India VIX is around 17.03, suggesting that, on the whole, the anticipated volatility in the market was moderate. Nonetheless, the standard deviation of approximately 6.25 indicates considerable variations, implying times of elevated volatility and unpredictability in the market. The lowest Price observed is 10.41, whereas the highest reaches 64.40, indicating significant fluctuations that may relate to particular market occurrences or economic disturbances. This wide variation in values further indicates the occurrence of volatility spikes.

The Open, High, and Low figures exhibit a comparable trend. The typical opening value stands at 17.04, which closely corresponds with the average price, indicating stability in market sentiment at the outset of the trading sessions. The average high stands at approximately 20.91, whereas the average low is 12.88, suggesting that on the majority of trading days, prices varied within a significant range. The High value demonstrates the most striking peak at 86.63, significantly higher than the 75th percentile value of 23.29, highlighting the occurrence of extreme volatility on particular days. Likewise, the Low displays a minimum of

8.18 and a maximum of 31.48, indicating significant intraday declines and rebounds.

Regarding distribution, the 25th percentile (Q1) for Price is 13.23, the median (Q2) stands at 16.02, and the 75th percentile (Q3) is 18.81. This suggests that 50% of the VIX values fall between roughly 13 and 18.8, indicating a generally stable range with sporadic extreme values in the upper tail. The skewness indicated by the elevated maximum values relative to the median implies a right-skewed distribution, often seen in financial data during times of crisis or uncertainty.

In general, the descriptive statistics illustrate a market that went through phases of stability mixed with bouts of significant volatility, potentially caused by macroeconomic developments, geopolitical occurrences, or market adjustments. Grasping this trend aids investors and analysts in assessing risk and formulating strategies that correspond with the historical patterns of market fluctuations.

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[17]:	df2.head()													
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#### Interpretation of descriptive statistics

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The summary statistics of Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) data offer important insights into the trends and patterns of institutional investments in India over the years. From the examination of 120 observations, we find that the average gross purchase by FIIs is approximately  $\gtrless1,59,675$  crores, whereas the average gross sales are marginally higher at  $\gtrless1,67,175$  crores, suggesting a prevailing trend of net selling by FIIs. This is additionally corroborated by the negative average net purchase/sales value of around  $-\gtrless7,500$  crores, indicating that FIIs have generally been net sellers throughout the period. The highest gross purchase noted was  $\gtrless4,22,672$  crores, while the highest gross sales hit  $\gtrless4,43,012$ crores, indicating considerable fluctuation in FII activities. The elevated standard deviation figures for both acquisitions ( $\gtrless82,001$  crores) and disposals ( $\gtrless88,515$  crores) underscore the significant volatility and variation in foreign investment trends.

65317.13000

24842,89426

340739.130000

77791,254662

317253.110000

64790.649793

107254.680000

21166.597796

Conversely, Domestic Institutional Investors (DIIs) show a more consistent pattern. The average gross purchase of DII is ₹1,16,513 crores, while the average gross sales stand at ₹1,03,320 crores, leading to a positive average net purchase of roughly ₹13,192 crores. This suggests that DIIs have repeatedly functioned as net purchasers, frequently intervening to bolster the market during FII sell-offs. DIIs recorded a peak net purchase of ₹1,07,254 crores and a low of -₹48,319 crores, indicating some sell-offs but an overall optimistic outlook. Moreover, the standard deviations for DII metrics, while substantial (₹77,791 crores for purchases and ₹64,790 crores for sales), are less than those of FIIs, suggesting that DII behavior is more stable and less volatile.

The quartile information provides additional insight. For example, the 25th percentile of FII net purchases/sales stands at  $\cdot$ ₹16,898, while the 75th percentile is at ₹5,052, reinforcing the tendency of FII behavior to lean towards selling. In contrast, DII net buy/sell figures show a 25th percentile of ₹1,250 and a 75th percentile of ₹21,251, highlighting their favorable involvement in the market. In conclusion, the data indicates that although FIIs

usually respond intensely to international and local events with significant inflows and outflows, DIIs have contributed to stability in the Indian equity markets, providing a counterweight to the volatility brought on by FIIs. This relationship between foreign and domestic institutional investors is essential for grasping market sentiment, liquidity trends, and general investment actions in India.

## **Correlation Analysis**



## Interpretation of correlation analysis

The analysis of correlation among FII\_Net (net investments by Foreign Institutional Investors), DII\_Net (net investments by Domestic Institutional Investors), and VIX (Volatility Index) offers significant insights into the behavior of institutional investors and the effects of market volatility. The primary finding is the robust negative correlation of -0.86 between FII\_Net and DII\_Net, suggesting a highly inverse connection in their investment behaviors. This indicates that when foreign investors are net purchasers in the market, domestic investors are usually net sellers, and the opposite is true as well. This trend may indicate varying investment strategies, risk tolerances, or macroeconomic views among FIIs and DIIs. FIIs could be more affected by global indicators like interest rate changes, geopolitical events, or currency variations, whereas DIIs may react more to local aspects like government policies, budget releases, or company profits. This counterbalancing effect might also lead to a degree of market stability, since the actions of one group can lessen the influence of the other.

Conversely, the association between FII\_Net and VIX stands at -0.16, which, while weak, still suggests a minor inverse correlation between foreign investment movements and market volatility. A negative correlation in this context might suggest that higher foreign investment correlates with a comparatively stable market, likely due to enhanced investor sentiment and trust. Nevertheless, due to the weak correlation, it cannot be considered definitive, and additional external factors might also impact this connection. The relationship between DII\_Net and VIX is merely 0.05, showing almost no connection. This implies that DIIs tend to be mostly unconcerned with short-term fluctuations indicated by the VIX and may adopt a longer-term or value-oriented investment strategy, focusing more on fundamental metrics than on market sentiment.

The heatmap display additionally enhances the numerical matrix, employing the 'coolwarm' color scheme to effectively differentiate the strength and direction of correlations. The dark red on the diagonal signifies perfect correlation (each variable correlating with itself), while the deep blue between FII\_Net and DII\_Net highlights their notable inverse relationship. Fainter hues between VIX and the other variables indicate the weaker, nearly insignificant connections. Essentially, this analysis emphasizes the differing roles of FIIs and DIIs within the Indian stock market environment and accentuates the minimal impact of volatility on the behavior of institutional investments. These insights are especially beneficial for analysts, policymakers, and investors aiming to comprehend the dynamics of capital flows and their relationship with market sentiment.

## Multiple Regression Analysis





A multiple linear regression analysis was performed to investigate the impact of net inflows from Foreign Institutional Investors (FII) and Domestic Institutional Investors (DII) on market volatility, as indicated by the India VIX index. The regression findings indicate a low R-squared value of 0.057, signifying that merely 5.7% of the fluctuation in the India VIX is accounted for by the joint impact of FII and DII inflows. The modified R-squared is even lower at 0.041, indicating a restricted fit of the model. Although the model exhibits low explanatory strength, it remains statistically significant overall, as shown by the F-statistic of 3.521 and its related p-value of 0.0327, which is under the standard 5% limit. This suggests that the independent variables collectively hold a significant relationship with the dependent variable, VIX.

Upon examining the individual coefficients, FII net inflows exert a statistically significant negative impact on VIX (coefficient = -0.0001, p-value =

0.011), indicating that as foreign investors boost their net inflows, market volatility generally declines. This opposite relationship could indicate increasing investor confidence and the stabilizing influence that foreign investment provides to the market. In contrast, DII net inflows exhibit a negative coefficient, yet the relationship is only marginally significant (p-value = 0.054), which reduces its reliability as a predictor in this scenario. DII activity may be more responsive or swayed by various market signals than FII behavior, leading to a less distinct or stable effect on volatility.

The regression plot of VIX in relation to FII net inflows clearly illustrates the negative correlation, with the regression line slanting downwards. Nevertheless, the broad spread of data points around the line suggests a weak association and indicates the presence of additional unconsidered factors affecting volatility. Diagnostic statistics additionally highlight issues regarding the model's reliability. The condition number is very elevated (43,800), indicating possible multicollinearity or numerical instability. Furthermore, the Durbin-Watson statistic is 0.876, which falls below the acceptable range and implies the existence of positive autocorrelation in the residuals, suggesting that the errors are not independent over time. The Jarque-Bera test indicates that the residuals are non- normally distributed (p-value = 0.00), which is backed by pronounced skewness (3.88) and kurtosis (26.941), potentially impacting the reliability of statistical conclusions derived from the model.

In conclusion, although the regression indicates a notable negative correlation between FII inflows and market volatility, the overall model fit is poor and the findings must be taken with care. The existence of multicollinearity, non- normality, and autocorrelation suggests that further enhancement is required— potentially through the introduction of extra explanatory variables, using time series methods, or altering the data—to more effectively grasp the dynamics of market volatility in connection with institutional investor actions.

#### Findings of the study

#### Moderate but Fluctuating Volatility:

India VIX had an average of 17.03, with regular spikes suggesting abrupt market disturbances.

FIIs as Net Sellers:

FIIs displayed an average net outflow of ₹7,500 crores, accompanied by significant fluctuations in activity.

**DIIs as Market Stabilizers:** 

DIIs experienced regular net inflows (₹13,192 crores on average), indicating stable backing for markets.

**Inverse Relationship Between FIIs and DIIs:** 

A significant negative correlation (-0.86) indicates they frequently assume contrary positions in the market.

**DIIs Have Little Impact on Volatility:** 

A weak correlation (0.05) with VIX indicates that DIIs are not very responsive to short-term market fluctuations.

FII Inflows Reduce Volatility:

Regression indicates that FII inflows lead to a notably lower VIX, suggesting enhanced investor confidence.

Limited Model Fit:

The regression model accounts for just 5.7% of shifts in VIX; other elements probably affect volatility.

## Conclusion

This research offers a comprehensive examination of the connection between Foreign Institutional Investors (FIIs) and market fluctuations in India, concentrating specifically on the driving and restraining factors that affect FII actions. By employing descriptive statistics, correlation, trend, and regression analyses, the research reveals that FIIs significantly influence short-term volatility in the Indian equity market. Although FII inflows appear to lower volatility—indicating increased investor confidence—their overall behavior continues to be very responsive to global economic signals and risk elements. Conversely, Domestic Institutional Investors (DIIs) have shown more reliable investment patterns, frequently serving as a stabilizing influence, particularly during times of FII exit.

A significant negative correlation between FII and DII net flows indicates their inclination to adopt opposing roles in the market, which may help maintain liquidity balance. Nonetheless, the regression analysis indicates that while FII inflows considerably affect volatility, the overall model possesses low explanatory strength ( $R^2 = 0.057$ ), suggesting the role of other macroeconomic and market-specific factors. The occurrence of autocorrelation, multicollinearity, and non-normal residuals indicates that investor behavior is affected by intricate, interconnected factors. In the end, the results highlight the significance of upholding a steady policy atmosphere, enhancing regulatory supervision, and diligently tracking international signals to control volatility and guarantee ongoing foreign investment.

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